

EXPERT ADVICE AND TIPS FOR EVERY AMIGA ENTHUSIAST

# AMIGA SHOPPER

From the makers of **AMIGA**  
FORMAT

ISSUE 35 • MARCH 1994 • £2.95  
YOUR DEFINITIVE AMIGA GUIDE

WIN!  
A MAC EMULATOR

## GET UP AND RUNNING

Surge ahead with our  
eight-page beginner's  
guide to getting the most  
from your Amiga

INSIDE -  
**PROTEXT 6**  
**REVIEWED**

The classic WP receives a  
face-lift and new features.  
How does it compete?

**PLUS** public domain,  
C programming, AMOS, DTP,  
education, AmigaDOS, news,  
ARexx, communications,  
Amiga Answers and more...

**future**  
PUBLISHING  
Your guarantee  
of value



ISSUE 35 ■ MARCH 1994

### AMIGA SHOPPER

#### SHAREWARE COLLECTION - VOLUME NINE

##### IMObjects

Two superb 3 dimensional objects  
ready for rendering in *Imagine*  
**KingCON (WB 2+)**

Scroll bars and filename completion  
improve your console interaction

##### TrashIcon (WB 2+)

An intelligent trashcan that deletes  
files across volumes

##### Magic Menus (WB 2+)

Improved pop-up Intuition menus

##### C Address Book + ASPaint

Full source code for our C and  
AMOS programming tutorials

##### HDClick (WB 2+)

Launch your favourite programs  
from gadgets with a mouse click

##### FJPEG

Load and display JPEG compressed  
images with this fast utility

##### CGFonts

Compugraphic fonts for DTP and video

# WeServe of Hampshire Established 8 years

## Printers

### Canon BJC-600

**New Colour Printer** £447+VAT  
£525.23

360dpi Inkjet printer. Visit our showrooms  
comparing Canon/Epson/HP/Star

### Canon Inkjets

	Exc VAT	Inc VAT
BJ10sx 360dpi	£159	£186.83
BJ200 Inc Sheet Feed	£239	£280.83
BJ230 wide carriage	£285	£334.88
BJ300 360dpi	£329	£386.58
BJ330 wide carriage	£379	£445.33
BJC800 fast & colour	£1219	£1432.33

**All Citizen printers have  
a 2 year warranty**

### Citizen

	Exc VAT	Inc VAT
120D+ 9pin Mono	£96	£112.80
Swift 90 9pin Mono	£118	£138.65
Swift 90 9pin Colour	£130	£152.75
Swift 200 24pin Mono	£160	£188.00
Swift 200 24pin Colour	£172	£202.10
Swift 240 24pin Mono	£194	£227.95
Swift 240 24pin Colour	£206	£242.05
New Citizen Project II	£203	£238.53
PN48 Portable	£189	£222.08
Notebook 2 Col. Port.	£235	£276.13

### Citizen Project Inkjet

Similar to Deskjet but Epson and  
Deskjet compatible

**Special Offer** £160+VAT  
£188.00

### Stylus 800

**New Piezo Inkjet Epson Printer**

360dpi  
escape P2  
compat.  
£193+VAT  
£226.78

### Epson

	Exc VAT	Inc VAT
LX100 9pin +Sheet Fd	£109	£128.08
LX400 9pin Mono	£94	£110.45
LX850 9pin Mono	£139	£163.33
LQ570+ 24pin Mono	£199	£233.83
Stylus 300 Inkjet	£184	£216.20
Stylus 1000 Inkjet A3	£353	£414.78
EPL5000 6ppm Laser	£439	£515.83
EPL5200 6ppm Laser	£495	£581.63
EPL8100 10ppm Laser	£699	£821.33

### Panasonic KXP1123

Probably the best 24pin  
mono printer available. £131+VAT  
£153.93

### Panasonic

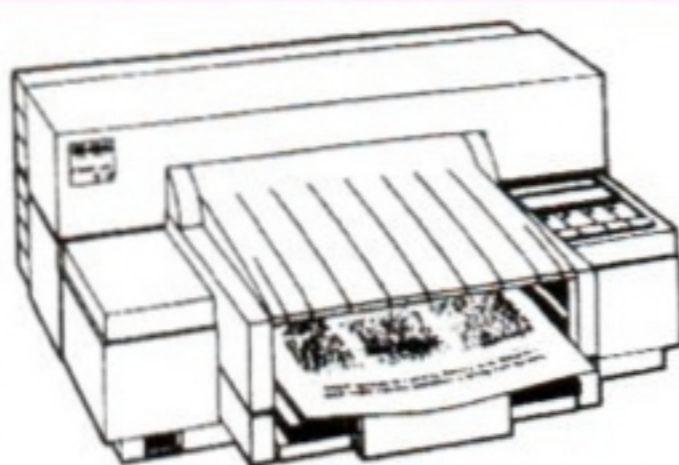
	Exc VAT	Inc VAT
KXP1170 9pin Mono	£95	£111.63
KXP2180C 9pin Colour	£139	£163.33
KXP2123C 24pin Colour	£164	£192.70
KXP2124 24pin printer	£215	£252.63
KXP4410 5ppm Laser	£442	£519.35
KXP4430 5ppm Laser	£535	£628.63
KXP4440 11ppm PS	£825	£969.38

### Dust Covers

For Printers, Monitors, Computers  
most types in stock from £4.70

### Ink Refills

BJ10 twin refill varolus colours 15.90  
Deskjet twin refill various colours 15.90  
(We stock 200 types of ribbons)



### HP Deskjets

	Exc VAT	Inc VAT
300dpi, mono or colour. Laser quality print		
Deskjet Portable mono	£165	£193.88
Deskjet 510 mono	£197	£231.48
Deskjet 500C colour	£234	£274.95
Deskjet 550C colour*	£389	£457.08
Deskjet 1200C colour	£981	£1152.68
Deskjet 310 mono	£169	£198.58
Colour kit for 310	£30	£35.25

\*550C has Colour & black cartridges  
resident at the same time.  
All deskjet prices include 3 year warranty

### New HP Colour Printer

### Deskjet 310C

300dpi optional colour inkjet printer.

310 Mono	£169+VAT	£198.58
310C Colour	£199+VAT	£233.83

Prices include 3 years warranty

### HP Lasers

	Exc VAT	Inc VAT
Laserjet 4L 4ppm PCL5	£469	£551.08
Laserjet 4P 4ppm PS2	£737	£865.98
Laserjet 4ML 4ppm 4M	£755	£887.13
Laserjet 4MP 6M PS2	£1047	£1230.23

### Star

	Exc VAT	Inc VAT
LC20 Mono 9pin	£101	£118.66
LC200 Colour 9pin	£153	£179.78
LC2420 mk2 24pin	£166	£195.05
LC24100 Mono24pin	£136	£159.80
LC24200 Colour 24pin	£195	£229.13
LC24-30 Colour 24pin	£187	£219.73
LC24-300 Colour 24pin	£235	£276.13
Star SJ48 inkjet	£165	£193.88

### Star LC100

9pin colour £118+VAT  
£138.65

### Star SJ-144

**New Colour Printer** £345+VAT  
£405.38

360dpi thermal (suitable for transfers)

### Sheet Feeders

	Exc VAT	Inc VAT
Canon BJ10 series	£44	£51.70
Citizen Swift range	£67	£78.73
HP Deskjet 310	£46	£54.05
Star LC range	£51	£59.93
Panasonic KXP range	£72	£84.60

### Printer Packs

A starter pack for all printers consisting of  
printer paper and a connection cable costs

**only £5 (£5.88 Inc VAT)**

A stand is an additional £5.00+VAT

### Citizen's Print Manager

These advanced printer drivers transform  
colour printouts to laser type quality

Version 1 (224 & 24E)	£5
Version 2 (Swift series 2)	£10

### Printer Drivers

Canon BJ-10e/ex	£5
Deskjet Colour	£5
Printer Drivers are 1/2 price with printers	

## Amigas

### A600

**New games packs**

A600 Wild Weird & W. pk	£189
A600 Hd 20Mb Epic pack	£269

Zool pack A600/A1200 add £14

### A1200

**New free games packs**

5x faster. Workbench v3. 2M ram.  
Custom graphic 256K col. from 16.7M

	C, R	D
A1200		
No Hd	£289	£319
80M Hd	£489	£529
120M Hd	£519	£559
170M Hd	£559	£589

Key to Software packs:

C - Comic Relief  
R - Race & Chase  
D - Desktop Dynamite NEW

**All Amigas have Commodore  
Hard Disks with CBM on-site.**

### Amiga A4000

	2M	4M	6M
4000/030			
80M Hd	889	959	1039
120M Hd	959	1029	1109
214M Hd	1009	1079	1159
A4000/040 6Mram 120MHd			1919

### Upgrades

A500 0.5-1Mram +clock ....	£24.90
A500 0.5-1Mram no clock ...	£19.90
A500+ 1Mram +clock .....	£44.50
A600 CBM 1Mram no clock	£29.90
A600 CBM 1Mram +clock ..	£39.90
A4000 32bit 4M Simm .....	£159.00
A4000 4M (1M x 32bit) ram	£157.00

### Floppy Drives

### Cumana CAX354

While stocks last £52.90

### New Rotted/Zappo

All Amigas A500-A1200 £56.90

### New Amitek 1M

All Amigas A500-A1200 £56.90

### Hard Drives

#### A500 GVP HD8+

40Mb Hard Disk	£189
80Mb Hard Disk	£289
120Mb Hard Disk	£385
40Mb A530 Combo	£389
80Mb A530 Combo	£489
120Mb A530 Combo	£585

#### A1500

40Mb Hard Disk	£189
80Mb Hard Disk	£289
120Mb Hard Disk	£385
Controller (no disk)	£119

GVP ram £45.82 per 1Mb

GVP PC Emulator £95

286 16MHz Emulator for HD8+/A530

70 page catalogue. All prices include 17.5% VAT unless stated otherwise

EDUCATIONAL AND GOVERNMENT ORDERS WELCOME

All hardware has 30 day money back & 12 month warranty.

Prices are subject to variation without prior notification.

Please phone for express clearance of cheques. Credit APR 29.8%

Established 8 years. 3 minutes from M27 Junction 11. Free parking.

Open 9 to 5.30 Monday to Friday & 9 to 5 Saturday. Carriage/order.

Post £1.60+VAT £1.88 Securicor £8+VAT £9.40 AM £14+VAT £16.45

# WeServe



Larger items delivered  
by Securicor



## WorkStation

### Expansion System

Monitor stand with shelf for drives etc.  
Strong metal construction made from  
14SWG steel epoxy coated. No Cables or  
mouse are included.

Special price £27.50

## Monitors

### Commodore

Multiscan

1942 £344 14" Stereo Col.  
Dot pitch .28

Sorry 1940 no longer available

### Commodore 1084S

14" Stereo Colour Monitor  
0.42mm. Medium Resolution

£199 £195

with cable without cable

## Accessories

3M Joystick/Mouse lead	£3.75
A500 Printer cable	£7.95
Modulator/Disk Extension	£10.95
23way Plug or socket	£2.95
Computer Dust Cover	£4.70
Type Through Covers	£17.50
Mouse Mat (thick soft type)	£4.95
Mouse House	£2.95
1M Internal 3.5" drive	£49.00
A500 replacement PSU	£39.00
The NEW 1200 Rogen Plus	£165.00
Disc Wallet for 32 disks	£7.95
CBM A1011 Floppy drive	£48.00
Opal Vision SPECIAL OFFER	£299.00
360K 5.25" A2000 floppy	£29.00
A2000 New but limited stock	£269.00
CD32 with new 4 games s/w	£269.00
Mouse/Joystick Autoswitch	£12.95

## Mice

Golden Image Mouse .....	12.90
Genius Happy Mouse .....	12.90
Manhattan Mouse .....	13.90
Naksha Mouse .....	15.90

## SONY DISKETTES

**SONY branded**  
(lifetime warranty)

(100% certified error free)

10x 3.5" DS/DD 135tpi .....	7.50
50x 3.5" DS/DD 135tpi .....	32.30
100x3.5" DS/DD 135tpi .....	59.93
250x3.5" DS/DD 135tpi .....	141.00

## DISKETTES

**SONY / DYSAN bulk**  
(lifetime warranty)

(100% certified error free)

10x 3.5" DS/DD 135tpi .....	5.95
50x 3.5" DS/DD 135tpi .....	21.86
100x3.5" DS/DD 135tpi .....	39.60
250x3.5" DS/DD 135tpi .....	94.88
40 x 3.5" Disk box with lock.....	5.49
50 x 3.5" Disk box with lock.....	5.99
100 x 3.5" Disk box with lock.....	7.50
Carriage on 50+ disks £6.00+VAT £7.05	

Amiga/Shopper Dept.  
40-42 West Street  
Portchester Hants  
PO16 9UW  
Tel: 0705 647000

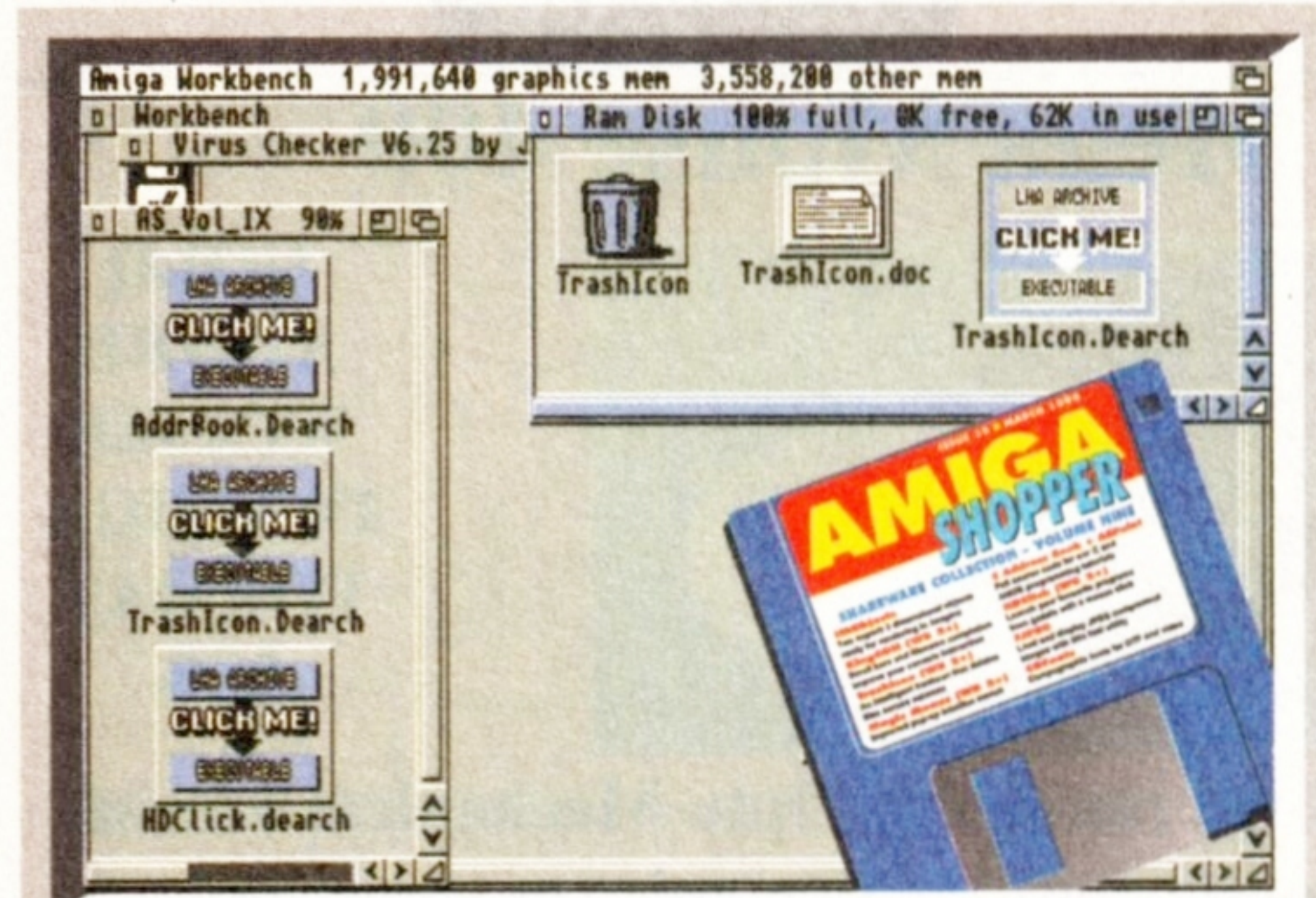
# AMIGA SHOPPER

ISSUE 35 • MARCH 1994

# IN THIS ISSUE

## News

CD-ROM drives at incredible prices, a CD<sup>32</sup> expansion, a new text editor, a new AGA paint package and a SCSI II interface



## Cover disk

A complete index of its contents, and important advice on how to retrieve and make the best use of all the lovely public domain and shareware programs packed on to your cover disk

## Video

In which you'll find reviews of two front-end packages designed to make using *Art Department Professional* easier, and a review of *VTClock*

## AMIGA ANSWERS

We've got seven whole pages teeming with solutions to your hardware and software dilemmas. Keep those questions coming – no problem is too tough for our panel of hardened Amiga experts

## AmigaDOS

Mark Smiddy, continuing his mission to explain the ins and outs of the Amiga's operating system, explains the more advanced features of the standard text editor, *Ed*, and explains paths

## Comms

If you ever have cause to hunt across the Internet for archived files, you'll want to know all about *Archie*, a program designed to do just that. Dave Winder explains how you can use it

## Education

Wilf Rees joins Noddy on his Big Adventure as he reviews The Jumping Bean Company's latest release for toddlers. Does its educational content live up to the big-name licence?

## Users groups

Get in touch with fellow Amiga fanatics in your area to swap advice, information and encouragement

## Amiga E

Discover a new language that's gaining quite a following in the public domain world. It's a bit like C, but it compiles in the blink of an eye. It's called, quite simply, E

## Reader Ads

Turn here for those used equipment bargains

## Subscriptions

A free binder, 12 issues of *Amiga Shopper*, and a saving of a fiver – what are you waiting for?

## C Programming

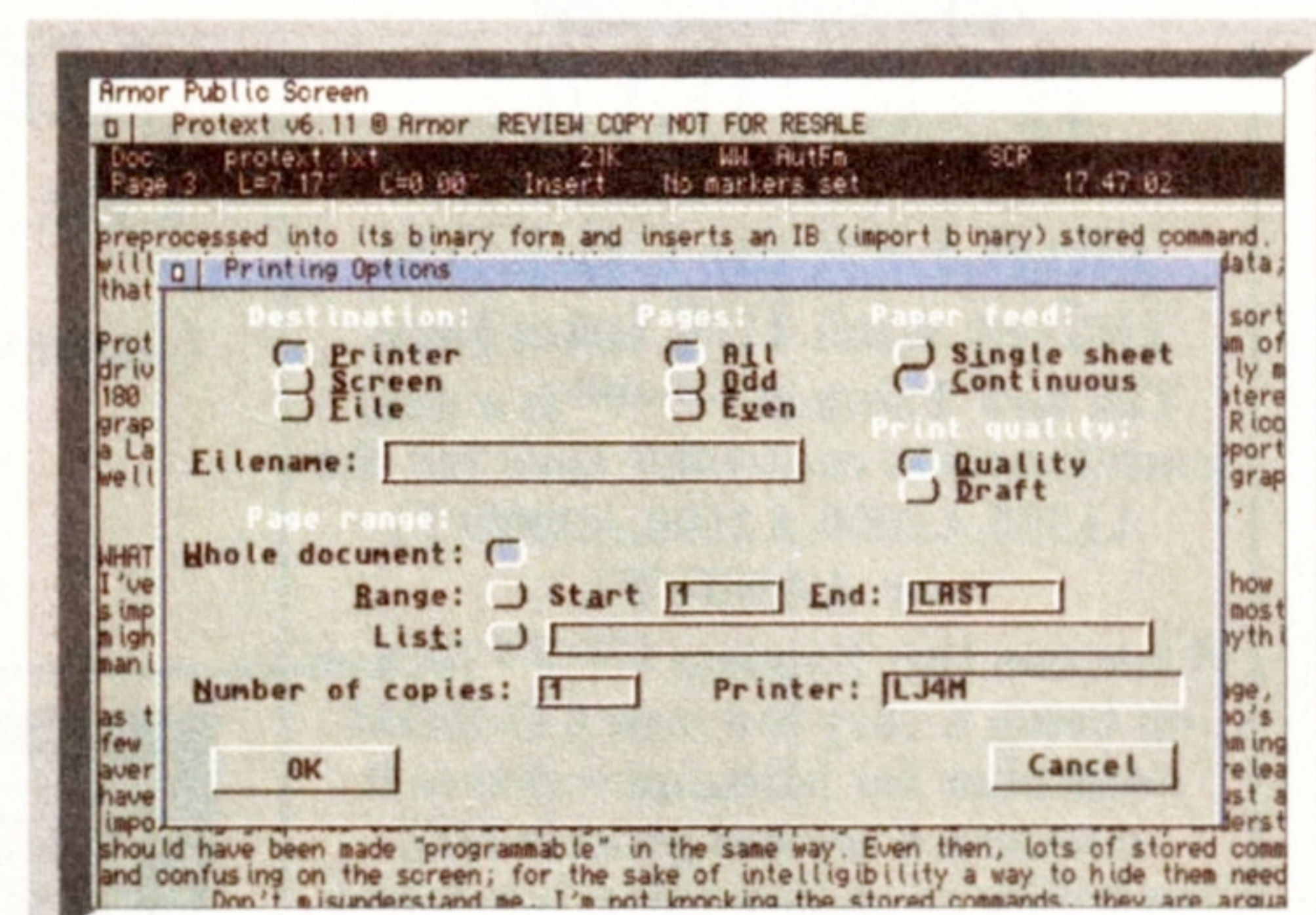
Learn the language of the pros with Toby Simpson's C tutorial. This month he improves his address book application by adding the facility to search for specific records

## AMOS

Meanwhile, Jason Holborn demonstrates how to become a master AMOS programmer. This month he adds a colour palette selector to his *ASPaint* painting application

## Letters

Tune in to the hot topics of the month with our forum for readers' views and concerns

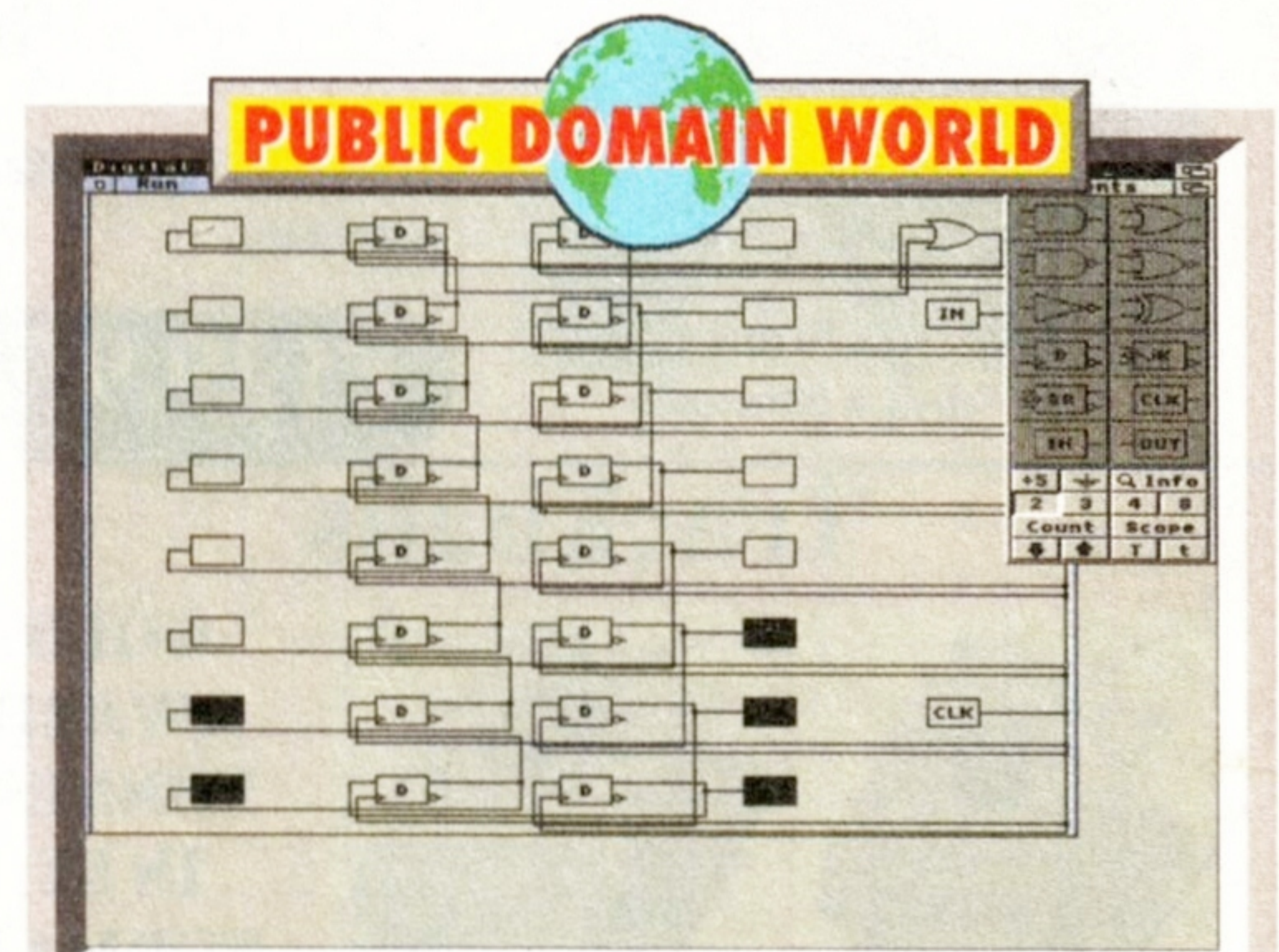


## Desktop Publishing

Jeff Walker presents a detailed review of the latest version of Arnor's classic word processor, *Protext*. With its new features for handling graphics, can it compete with *Wordworth* and co?

# Up and running

Now you and your Amiga can really get going, thanks to our mammoth feature for beginners. We'll fill in the blanks left by Commodore's manuals and make sure you've got a clear idea of what's going on inside your machine; and our huge glossary will ensure that all that jargon doesn't trip you up. Get this lot under your belt and you'll find yourself well on the way to being a power user



## Public Domain World

Ian Wrigley finishes his 25 issue reign as supreme arbiter of PD with a round-up of the very best (and some of the very worst) programs that have passed his way

## Back issues

No one should be without a complete set of *Amiga Shoppers*. You're damned lucky we provide a back issues service – turn here to rectify your mistake

## Product Locator

Your guide to the best in software, complete with supplier information and review references

## Safe Shopping

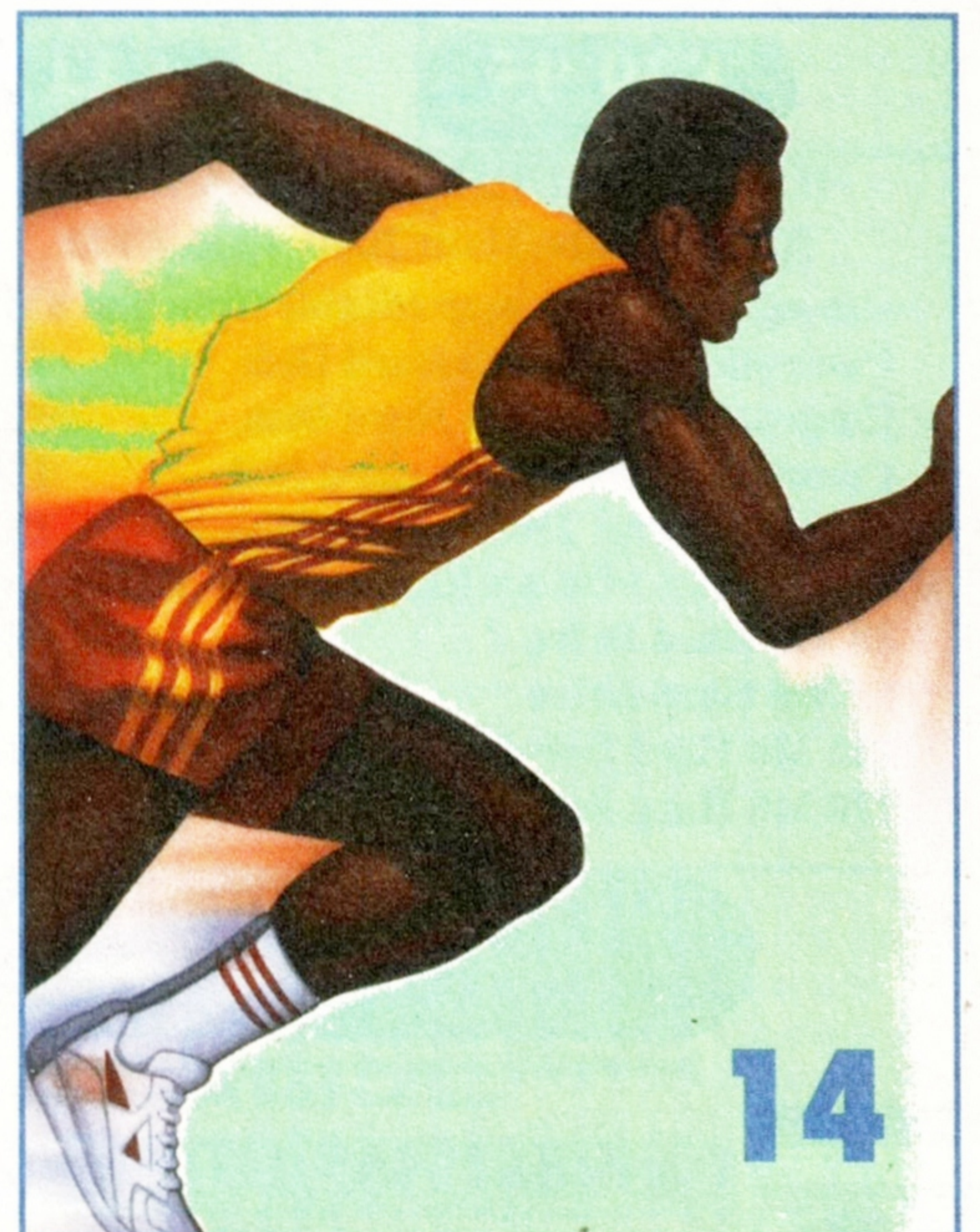
Don't buy that product until you've read the eminently sensible advice printed here

## Next Month

Not only do we give you a sneak preview of what you can expect next month, but we also announce the winner of issue 33's competition

## Competition

And if you didn't win, why not try again this month? We've got £400 worth of Emplant Mac emulator up for grabs. Just answer the three easy questions...



Amiga Shopper  
Best Buy



"King of The Scanners"  
Just Amiga Monthly

## 256 Greyscale Scanners

Total solution for scanning A4 images

Features : True greyscales, 100-400 dpi, 105mm head, OCR option

Top quality hardware with the latest version of software from Migraph.  
Allows real time scanning, provides powerful editing/painting features.  
Compatible (imports/exports) IFF,IMG, PCX, TIFF and MACPAINT formats.  
Compatible with all Amiga's  
A500, A500+, A600, A1200, A1500, A2000, A2500, A3000 and A4000

Touch UP and Merge It  
software.

**£129.95**

Touch UP, Merge It and Special OCR soft-  
ware.

Minimum system requirement 2 Mb RAM  
and a Hard Disk

**£179.00**

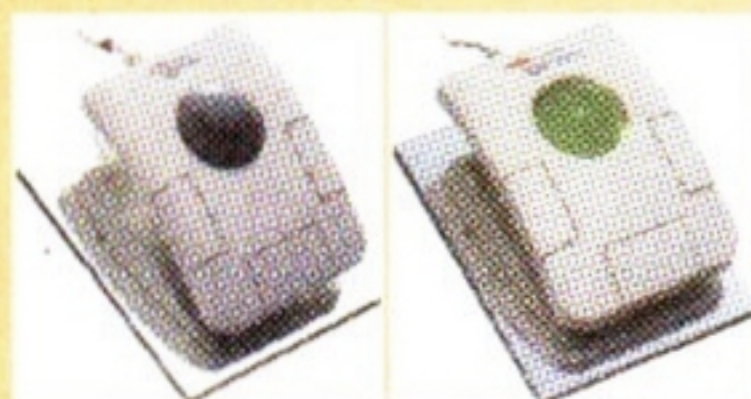
## ALFA COLOUR

**256K 18 Bit Colour Scanner**  
for all Amiga Systems  
Comes complete with scanning soft-  
ware and now with new Colour  
Correction facility.



**£339.00**

## Trackballs



**GOLD  
AWARD  
WINNER  
IN ST  
FORMAT  
92%**

**ST  
REVIEW  
91%**

New touch and light  
two colour shining  
Crystal Ball

**£29.95**

**£34.95**

Stylish three button trackballs  
,with third button supporting  
auto fire and drag and hold

## Auto Mouse/ Joystick Switch



Best Buy CU AMIGA

Automatic Switcher between  
two input devices with a click  
of a button.

E.g. mouse/mouse,  
mouse/joystick,  
joystick/joystick

**£12.95**

## Mega Mouse 400



**GOLD  
AWARD  
WINNER  
IN AMIGA  
FORMAT  
90%**

A 400 dpi high resolution Opto-Mechanical Mouse.

Top quality construction ensures rapid and  
smooth movement, with micro switch buttons.  
93% Rating AMIGA USER INTERNATIONAL  
Best Buy CU AMIGA / AMIGA COMPUTING /  
AMIGA SHOPPER

**£14.95**

## Optical Mouse



Highly Rated by  
CU Amiga

Superb 300dpi Optical  
Mouse with effortless  
micro switch buttons.  
Fast, smooth and reliable.

Includes Optical Mouse  
Pad and Holder

**£29.95**

## Optical Pen Mouse



A stylish Pen Mouse  
with quality construc-  
tion and smooth fast  
movement. Micro switch  
buttons. Ideal for DTP,  
artwork, etc

Includes Optical Pad

**£34.95**

## HARDWARE

**NEW: TANDEM CON-  
TROLLER for CD-ROM  
Drives with IDE interface**  
The new Tandem CD+IDE is a dual  
multifunction controller card for the  
A1500,A2000,A2500,A3000(T)  
or A4000(T)

Whereas the Tandem CD+IDE focuses  
on being a very low cost CD-ROM  
controller for Mitsumi™ drives it  
contains a second generic IDE  
controller to support IDE harddisks  
or the popular SyQuest™ SQ3105A  
3.5" removable media drive.  
Making it the ideal low-cost controller  
for almost all purposes.  
One of the cheapest Amiga CD-ROM  
solutions around giving you much  
more than just that at RRP of only  
\$89.00 or £69.00

### FEATURES

- Supports Mitsumi™ LU005 or  
FX0011D CD-ROM drive
- Supports SyQuest™ SQ3105A 3.5"  
removable media drive.
- Supports most IDE hard drives
- Includes SO9660 CD-ROM  
filesystem
- Includes "PlayCD" utility for  
audio operation
- Complete online documentation
- For A1500, A2000, A2500,  
A3000(T) or A4000(T)
- Compatible with Workbench 3.1  
CDFileSystem, BabelCDFS, ASIM  
CD-ROM FileSystem and single  
session Photo-CDs

Requires Kickstart 2.04 or above

## MIGRAPH COLOURBURST

The new 262,144-Colour Hand Scanner  
for all Amiga Systems  
Comes complete with Scan Kit Software and Junior  
OCR Software

**£399.00**

## MULTIFACE CARD III

Multi I/O card for Amiga series  
1500/2000/2500/3000 (T)/4000 (T)

The multiface card III expands your  
AMIGA by adding 2 serial ports and 1 par-  
allel port, which work at the highest possible  
transfer rate.

**£129.00**

## OKTAGON 2008

SCSI - 2- Controller with up to 8 Mb  
upgradeable

RAM for Amiga 2000/3000(T) 4000 (T)  
The Oktagon 2008 offers comprehensive  
solution the most diverse SCSI devices and  
to the most diverse problems

**£129.00**



## Colourful Animal Jungle or Dinosaur Design Mouse Mats.



New Soft Mouse  
Mats  
**£5.00**  
Only



## IDE HARD DRIVES FOR AMIGA

A500/A500+/1500/2000/3000/4000

with optional Ram upgradeable from 0 to 8Mb

Controller Plus 40Mb Hard Disk	£179.00
Controller Plus 85Mb Hard Disk	£279.00
Controller Plus 120Mb Hard Disk	£299.00
Controller Plus 250Mb Hard Disk	£329.00

## HARD DRIVES FOR AMIGA 600/1200 with IDE Cable

30 Mb Hard Drive	£89.00
85 Mb Hard Drive	£179.00
120 Mb Hard Drive	£219.00
170 Mb Hard Drive	£239.00

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Please add £3.50 postage and packing to all orders under £100.00 add £5.00 postage and packing. COURIER CHARGE £10.00 All prices include VAT GoldenImage accepts payment by Visa, Access, Cheque or postal order. E&OE. Prices subject to change without notice. Goods subject to availability. Specification subject to change without notice. All Trade Marks are Acknowledged.

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## COMMENT



The editor, Cliff Ramshaw, offers his penny's worth...

**H**ello and welcome to another issue. Our main feature this month is designed to help all you beginners. I'm not talking about absolute beginners – you should have at least read the manuals that came with your machine and done some experimenting – but people who are looking to step upwards and start really using their Amigas.

I heartily commend the feature to those of you who consider yourselves Amiga veterans, too – I know I learnt a few things reading through it.

Speaking of beginners we're joined by two new team members this month: Graeme Sandiford joins us as technical writer, while Nick Aspell takes over as our art editor. Great to have you on board lads!

## MERIDIAN TAKE THE HELM

Meridian Software Distribution has been appointed as the UK distributor of Eagle Tree Software's new multimedia authoring system *Helm*.

*Helm* has all the features and tools you'll find in most of its competitors and it also features a unique Action Editor that has been designed to aid the integration of graphics, animations, text, sound and music files when creating your multimedia applications. *Helm* is AGA-compatible and can be purchased from Meridian for £99.95.

Meridian will also be distributing *Adorage v2.0* published by HS&Y from Germany (£79.95), *Audio engineer 2.0 Plus* (£199.95) and *TypeSmith v2.0* (£169.95). Call Meridian on 081-543 3500.

## 24-BIT BONANZA

The Amiga Centre Scotland have made several reductions across a range of their extensive graphics hardware and software products.

*TVPaint 2*, widely regarded as one of the best 24-bit paint packages around, is now available for under £250. Alternatively, you can buy *TVPaint* with the Harlequin 2000 24-bit graphics card for under £1,000. The Retina graphics board has been reduced to £328 (1Mb), £389 (2Mb) and £492 (4Mb).

In the sound department, the Amiga Centre are distributing Maestro Professional – a Zorro II sound board that provides 16-bit input and output as well as direct-to-

hard disk recording. It also comes with the *Samplitude* software package. If used in conjunction with the optional backup software and a DAT recorder, it can be used for hard disk back-up with storage for 2Gb of data.

Toccata is a sampler that offers three stereo inputs and 16-bit sampling at speeds of up to 48KHz. When used in conjunction with VLAB Y-C's Interleaved Frame Recording (IFR) you can digitise images and



The Amiga centre has made the excellent *TVPaint* package available with the Harlequin 2000 24-bit graphics card for less than £1,000.

sound together. It's also supplied with *Samplitude*. Maestro Pro is priced at £612 and Toccata costs £370. The Amiga Centre can be contacted on ☎ 089-687 583.

## ON THE BUSES!

Commodore's already successful Amiga CD<sup>32</sup> is now playing a key role in education. After a much publicised nine-month, £4million face-lift, the London Transport Museum in Covent Garden has re-opened its doors to the public. It now features a new multimedia centrepiece based on 109 CD<sup>32</sup> machines. They are being used to provide visitors with 'hands on' access to information in an interactive way that conventional audio-visual systems could not match.

The Amigas supply a range of text, animation, graphics and sound effects on AVIDS (Audio Visual and Interactive Displays). Visitors will be able to control subtitled video sequences and access hundreds of tramways and underground routes as well as information about specific periods, vehicles and locations. They can even go on simulated journeys in which they are in the driving seat.

## PERSONAL FONTS MAKER 2.0

Cloanto, the makers *Personal Paint* (now in version 4), have just completed *Personal Fonts Maker 2.0*. This incredibly useful program has been designed to enable the easy creation of Amiga fonts for use in video titling, multimedia projects and other applications.

*Personal Fonts Maker 2.0*'s interface is similar in operation to *Personal Paint*'s, and even shares some of its tools and processes so users of *Personal Paint* should find it easy to use. The current version supports 256-colour fonts on AGA machines, anti-aliasing (with an option to use vector fonts as a point of departure) and right-to-left fonts.

It is available from Meridian for £59.95.

Contact them on ☎ 081-543 3500. *Personal Fonts Maker 2.0 makes creation and editing of Amiga fonts easy, or at least that's what is claimed.*



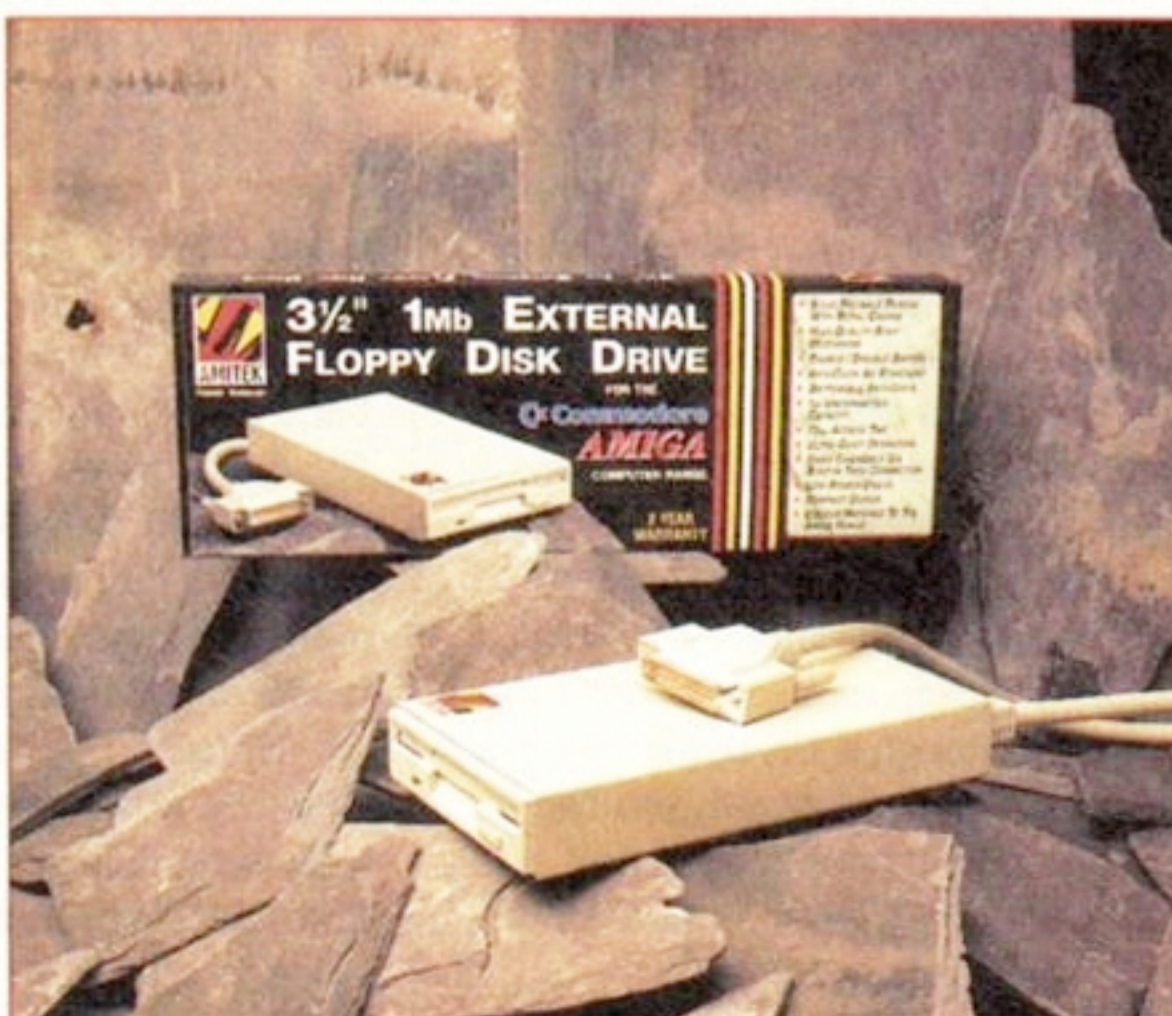
## DISK DRIVE WITH HARDWARE VIRUS PROTECTION

Silica Systems are currently distributing Amitek's Deluxe Amiga disk drive.

The drive features anti-click technology, hardware virus-protection and a Sony drive mechanism.

It comes with a price-tag of £59 (including a 2-year warranty)

Contact Silica Systems on ☎ 081-309 1111 for more info.



Amitek's new deluxe drive with built-in virus protection.

## NEW AGA GRAPHICS CONTENDER

*TruePaint* (£69) is an AGA paint package that is bidding for Brilliance's AGA paint package crown.

The program's release has been delayed, not as long as *Brilliance*, and should be available before the end of January. *TruePaint* promises a respectable range of tools such as a light table for editing animations, MINIPIC which will give you a quick view of your pictures and extensive macro functions. It supports JPEG IFF as well as its own *TruePaint* format. It works in 24-bit internally and can produce 24-bit and HAM8 files. *TruePaint* will work on any AGA-equipped Amiga and is available from Gasteiner on ☎ 081-365 1151.

## EXPAND YOUR CD<sup>32</sup>

Those of you who have purchased or are thinking of purchasing CD<sup>32</sup> with expansion in mind can now breathe a sigh of relief. The first expansion module has arrived. The SXI from Microbotics will slot into the CD<sup>32</sup> expansion port enabling a keyboard, floppy drive, additional memory and a printer to be used. Indi Stores are currently stocking a specially-priced bundle that comprises a CD<sup>32</sup>



The time has come to expand your CD<sup>32</sup> beyond the realms of mere gaming.

console with five games, a Zappo floppy disk drive, keyboard and an SXI module for £479.99 (a saving of £46 on the normal price of £525.99). All of the components are available separately; the expansion module for £139.99, £45.99 for the keyboard, and a sale price of £48.99 for the Zappo floppy drive. You can contact Indi Direct Mail on ☎ (0543) 419999.

## MULTIMEDIA PRICE BREAKTHROUGH!

At last an affordable CD-ROM drive for the Amiga. The Toshiba XM4101 is available from The First Computer Centre for £219. While this is the kind of price PC owners have been enjoying for some time, it is definitely something of a breakthrough in price for the Amiga multimedia enthusiast.

The XM4101 has a SCSI-2 interface, CDDA across SCSI bus, 300K/s transfer rate, access time of 385ms, is Photo CD-compatible and operates at dual speed. It fits into the 5.25-inch bay of a 4000 and will read CDTV, ISO 9600 (PC), CD<sup>32</sup> and Mac formats. It also comes with PD drivers and an as yet untested Photo CD reading extension for *ImageFX*.

There are also external versions for 3000s and 500s equipped with SCSI, as well as the XM3401 and CD 50 drives that will enable portions of music from audio CDs to be copied to an Amiga DOS file. The drives and suitable SCSI interface are available from The First Computer Centre on ☎ (0532) 319444.

## XCAD GOOF

Unfortunately in issue 33 our review of XCAD, the Amiga's premier CAD package, included the wrong company name and telephone number. The correct company is Digital Multimedia Limited and they can be contacted on ☎ 081-977

1105. We would also like to take the opportunity to point out that the XCAD Christmas offer is no longer standing and the current recommended retail prices are £129.99 for XCAD 2000 and £329.99 for XCAD 3000.

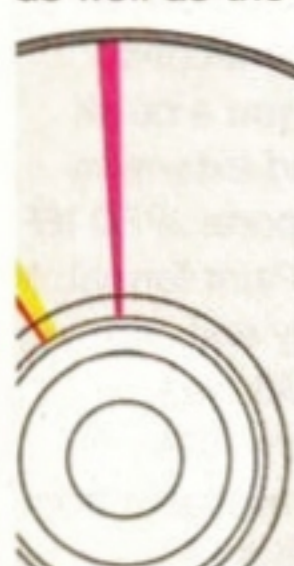
However, if you're lucky you might find a dealer with some of their Christmas stock left.

## 17 BIT CONTINUATION DISC

17 Bit Software have just announced the latest volume of their collection of Public Domain on CD-ROM. The disk is crammed with over 600 games and covers the company's range of graphics, utilities, applications, fonts and demos from disk 2302 to date.

This latest disc includes a very useful index and file search system that can be used with discs A and B as well as the continuation disc.

The disc is available from 17 Bit Software for £19.99 call the company on ☎ 0924 366 982.



## SNAP TO IT!

Anti Gravity Products of California (the creators of *Humanoid*) have completed work on an a line of products that will aid the creation of natural or hard-to-model 3D shapes.

*Snap Maps* is essentially a combination of 24-bit colour maps, bump maps and clip maps. Elements from these collections can be used as templates with any 3D package to produce realistic and sharp images.

The *Fields and Foliage* volume contains maps for creating petals, vines, bark, branches, leaves and that most awkward of awkward of objects, grass. *Materials and Fabrics* includes wicker, cloth, nets and even fences. Although a UK dealer has not been established just yet, you can purchase them directly from Anti Gravity Products in the United States for \$129.95 each. For more information call AGP on ☎ 0101 310 393 6650.

## MIDI SHOW

Amiga users who love music but suffer from an unreasoning fear of MIDI technology, will find help and advice at a MEMS '94 (MIDI Electronic Music and Recording Show) at Wembley in April.

The show will be the venue for series of seminars aimed at demystifying MIDI. You'll also have an opportunity to visit the exhibition's Information Centres and Advice Clinics where you'll receive help with your musical problems from respected industry personalities. The event will be held at the Wembley Conference and Exhibition Centre from the 22nd to 24th of April. Advance tickets cost £5 (☎ 0222 512128) or pay £8 on the day.

## WALKABOUT SOME MORE

Walkabout Music of Cornwall have yet more digitally mastered sample disks. Their new disks comprise new drum and percussion loops, brass, strings, pianos and woodwind instruments. The collection, which has always catered for a wide range of musical tastes, now covers more mainstream sounds and effects such as techno. The complete collection is available for £59.95, 1-9 disks are £2.50 each, 10-19 disks £2.00 each and 20 or more for £1.75 each. For more information call Walkabout on ☎ 0726 813 827.

## ALLIANCE OF POWER

In a trans-Atlantic coup that is certain to benefit the UK Amiga-using community, Bedford-based Power Computing are now DKB Software's official distributors.

One of the first products of this alliance is the new 4091 FAST SCSI-2 card for the Amiga 4000 and 3000. This was originally designed by Commodore and has now been licensed to DKB for manufacturing and marketing. Unfortunately it is

incompatible with Buster chips in some early 4000s.

Power and DKB forged the new agreement following an Amiga-world shattering meeting at the World of Commodore Expo in Toronto last December. The upshot of this 'power-meeting' is that UK-based Power Computing will have exclusive distribution rights for the DKB 4091 interface and all of DKB's future developments.

## THE PROGRAMMING EDGE

American software utilities manufacturer Inovatronics have just released *Edge*. This is a text editor that InovaTronics claim to be easy to learn and ideal for programming projects and script editing. It also features AREXX support, auto indent, a local and a global clipboard, a fully featured find and replace function and extensive block commands such

as printclip and uppercase. *Edge*'s main attraction to programmers is its on-line dictionary for C programmers and list of Amiga-specific words such as those used in Intuition code. Another useful programming tool includes Bookmarks that make it easier for you to jump back and forth within large documents. To find out more about *Edge*, contact Inovatronics inc ☎ (0707) 662861.

## VISTAPRO LITE... VISTA FOR 2MB AMIGAS

Great news for Amiga owners who have more ambition than RAM. Virtual Reality Labs of California have just finished work on *VistaPro Lite*. This is the latest version of its popular but memory-hungry, fractal-landscape generator.

*VistaPro Lite* has many of the features of the highly-regarded *VistaPro 3.0*, including AGA support. However, while full-blown *Vista* requires 5Mb of memory to support its graphics modes, *VistaPro Lite* will render landscapes using just 2Mb of RAM by making use of memory-saving techniques and a new 'Tiny' landscape size.

Prices have not been confirmed but Meridian Software Distribution can be contacted on ☎ 081-543 3500.



Never thought you'd be able to make full use of Vista Pro? Well think again, and think Lite.



INDI DIRECT MAIL is original and very exciting. Before you buy mail order you must first be confident that you will receive the product you've ordered and that the supplier will still be there in the future, should you need them. A mail order purchase from INDI is a safe and secure decision and here's why. Indi is a wholly owned subsidiary of a public company now in its eleventh year of trading and specialising in the supply of computer products. With a group turnover approaching £30 million per annum, INDI have the resources and the purchasing power to offer you the best deals, deliver them next day nationwide and always be around when you need us.

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INDI are now able to offer competitive credit facilities on all orders over £200. All credit facilities are subject to status and applicants must be over the age of 18. If you would like a quote, simply call our sales line where acceptance can normally be notified within the hour. We are also able to offer Credit Insurance to cover repayments in the event of sickness or unemployment.

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200	£22.00	£264.00	£12.00	£298.32	£9.31	£335.63
500	£54.99	£659.88	£31.06	£745.44	£23.27	£837.72
1000	£109.98	£1319.76	£62.13	£1491.12	£46.54	£1675.44

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\*After deposit paid.

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I enclose cheque/ PO for £..... or charge my  
Access / VisaNo..... Expiry...../...../.....  
Signature..... Name.....  
Address.....  
Postcode..... DaytimeTel.....



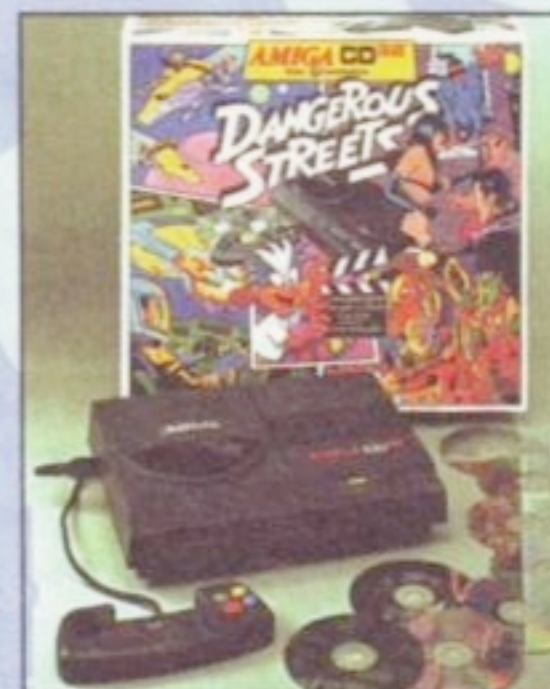
AS0394

TEL: 0543 419 999 FAX: 418 079

Hi. Did you have an absolutely amazing Christmas and did Santa bring you everything you hoped for? I certainly hope so. Well folks, it's not easy writing the Indi Column 2 weeks before Christmas to meet deadlines for the January Magazines but here goes. At the time of writing there seems little doubt that the Amiga Desktop Dynamite Pack has been a major success story with Sales exceeding every prediction, well done to David Pleasance and his team at Commodore. Without a doubt the big news has been Commodore's decision to add two extra titles to the CD32 Bundle making 4 in total (5 if you buy from INDI). This week INDI have formally announced the SX1 Expansion Module for the CD32 allowing the addition of a keyboard and other peripherals. The implications of this are very important for both existing Amiga owners and potential CD32 buyers. It is now a real alternative to buy a CD32, add an expansion module and keyboard and effectively own an Amiga 1200 with a CD drive rather than the alternative of buying an Amiga 1200 and then adding the CD32. Developments are moving very quickly in this area. I will keep you up to date with more information next month. Best wishes,

*Jakki Brambles*

## Amiga CD32 FREE OSCAR, DIGGERS, WING COMMANDER AND DANGEROUS STREETS PLUS INDI EXCLUSIVE FREE LEMMINGS



This is the news that all Commodore enthusiasts have been waiting for the new Microbotics SX1 Expansion module arrives January 1994. The Amiga CD32 is no longer just the best 32 bit CD console around, it is now a fully expandable computer. Add a keyboard and printer and increase the memory to 8 Mb, connect to another Amiga, the choice is yours. The microbotics SX1 is an internal expansion device that simply connects to your Amiga CD32 via the FMV port, the FMV module then plugs into the SX1. Connection could not be simpler.

**KEYBOARD OPTION** Add a keyboard by simply plugging into the SX1 and turn your CD32 into a real computer

**PRINTER OPTION** Now that you have a real computer, why not add a Panasonic Printer and enjoy serious graphics and Word Processing.

**EXTERNAL FLOPPY DRIVE OPTION** Add a Zappo Floppy Drive and have access to the thousands of low cost Amiga titles.

**MEMORY EXPANSION MODULE** Increase the memory up to 8Mb by the simple addition of Industry standard 32-bit Simms.

### New CD32 Owners

Can now enjoy all of the advantages of real computing by adding a keyboard and other standard peripherals. Add a floppy drive and enjoy access to thousands of low cost Amiga titles. Add a printer and move into graphics and word processing. The expansion possibilities are as flexible as if you owned an Amiga 1200

**SEPARATE PRICES**  
SX1 CD32 Expansion Module £139.99  
CD32 Keyboard £45.99  
Zappo Drive sale price £48.99

### New Amiga CD32 Pack

- 1) Amiga CD32+ 4 games + Lemmings
- 2) Zappo Drive
- 3) Keyboard
- 4) SX1 Expansion Module

Normal  
Indi Price

Launch Price

£289.99

£285.99

£49.99

£48.99

£45.99

£45.99

£139.99

£99

£525.99

£479.97

SAVE  
£46

### Commodore 1942 Dual Sync Monitor



This new monitor has been specially designed for the New Amiga 1200 and 4000 computers in order for you to enjoy their fantastic graphics to the full. The 1942 Monitor features built in stereo speakers.

£347.99

### Samsung 14" VGA Monitor

Make no mistakes, this is a top quality EGA colour monitor, in fact we defy anyone to notice a difference between the Samsung 14" colour Monitor and a Commodore 1942, except in the crucial area of price.

- \* Twin Stereo Speakers and Amiga Cable.
- \* 12 Months Warranty.

£339.99

### Sharp Monitor / TV



The superb Sharp 14" Monitor / TV provides a real alternative to a Commodore Monitor with full function remote control 39 channel electronic auto search tuning, digital on screen display and 1.5 watt Mpo audio output. All you need to know is the low low price. The Sharp Monitor / TV is the product for you complete with scart socket and connectivity cable and including 12 months Warranty. £169.99

£169.99

### 2 Mb Smartcard

The original and still the only fully PCMCIA compatible memory card for the A600 and A1200. Comes with lifetime guarantee. Beware of cheap imitations.

INDI PRICE £99.99

### 4 Mb Smartcard

Same as above but maximum 4Mb.

INDI PRICE £155.99

### Commodore 1084 Stereo Monitor



The Commodore 1084s Stereo Monitor. Compatible with all Amiga products. Featuring

- \* Stereo Sound
- \* High resolution display
- \* Ergonomic Design
- \* Full Amiga Connectivity Pack.

£189.99

### Zappo External Floppy Drive



You've seen all the reviews on this popular and affordable second Amiga drive. "Compatible with all Amigas Quality 9 out of 10." Exceptional value for money.

Amiga Computing

£48.99

### New Low Price IDE Internal Hard Drives

Indi can now offer top quality 2.5" Internal Hard Drives for the Amiga 600 and 1200 at unbeatable prices. All drives come complete with cable and installation software.

80Mb 2.5"	Internal HD's	£189.99
120Mb 2.5"	Internal HD's	£200.99
170Mb 2.5"	Internal HD's	£239.99

### Zappo 601

Trapdoor upgrade for the Amiga 600, 1Mb with RTC.

INDI PRICE £49.99

### Zappo 601 NC

As above only 512K, no clock

INDI PRICE £29.99





# The AS Shareware Collection volume IX

**How to access and use this issue's cover disk.**

## HDCLICK

### Workbench 2.0 and above

If you have a hard disk installed inside (or on the side) of your Amiga, then you'll already know just how confusing it can be trying to hunt through megabytes of files for your favourite word processor or paint program. *HDClick* is a useful utility that can be used as a frontend for your hard disk. It enables you to select your favourite programs and perform common hard disk operations without having to wade

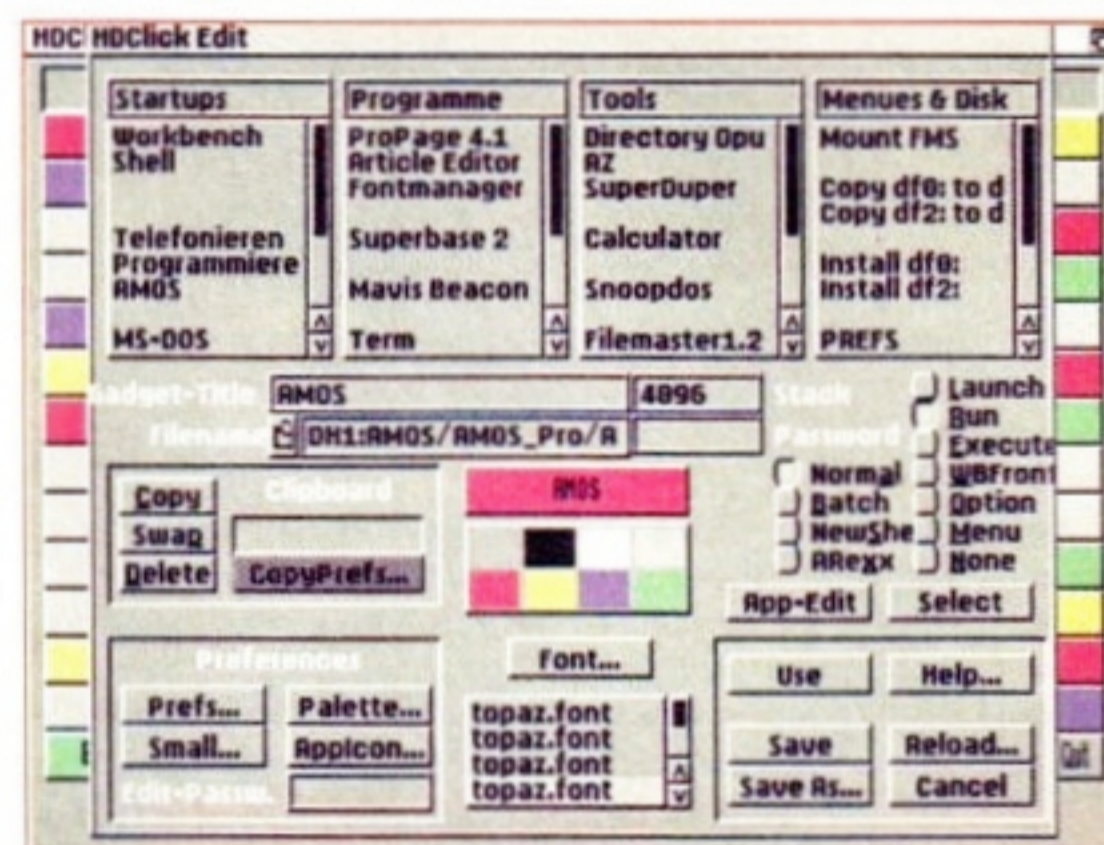
through masses of files and drawers. What's more, *HDClick* is fully configurable so you can set it up to suit your own system with ease.

Before you can use *HDClick*, you'll need to decompress its archive by following the instructions at the bottom of these pages. When *HDClick* is decompressed, it will create two directories containing the *HDClick* program and another containing an all-important file called **AskEnv**. In order to use *HDClick*, it needs to be installed on your hard disk – don't worry, this isn't as painful or involved as it sounds

with a demonstration configuration but it's very unlikely that you'll have the same programs as him installed on your hard drive so you'll need to start by removing all the entries that he has added. The easiest way to do this is to delete all the files in the directory

**HDCCfgs**. When you run *HDClick*, it will inform you that no config files have been found and then ask you if you wish to create a new set of config files. Just select **OK** and a 'clean' version of *HDClick* will load. Once the *HDClick* screen appears, select the **Edit** gadget and you can start defining the *HDClick* buttons to run programs, AmigaDOS scripts and even ARexx scripts on your hard disk.

*HDClick* is quite a complex program so we strongly recommend that you read the included documentation files before diving into it. Also included is an *AmigaGuide* format file that can be



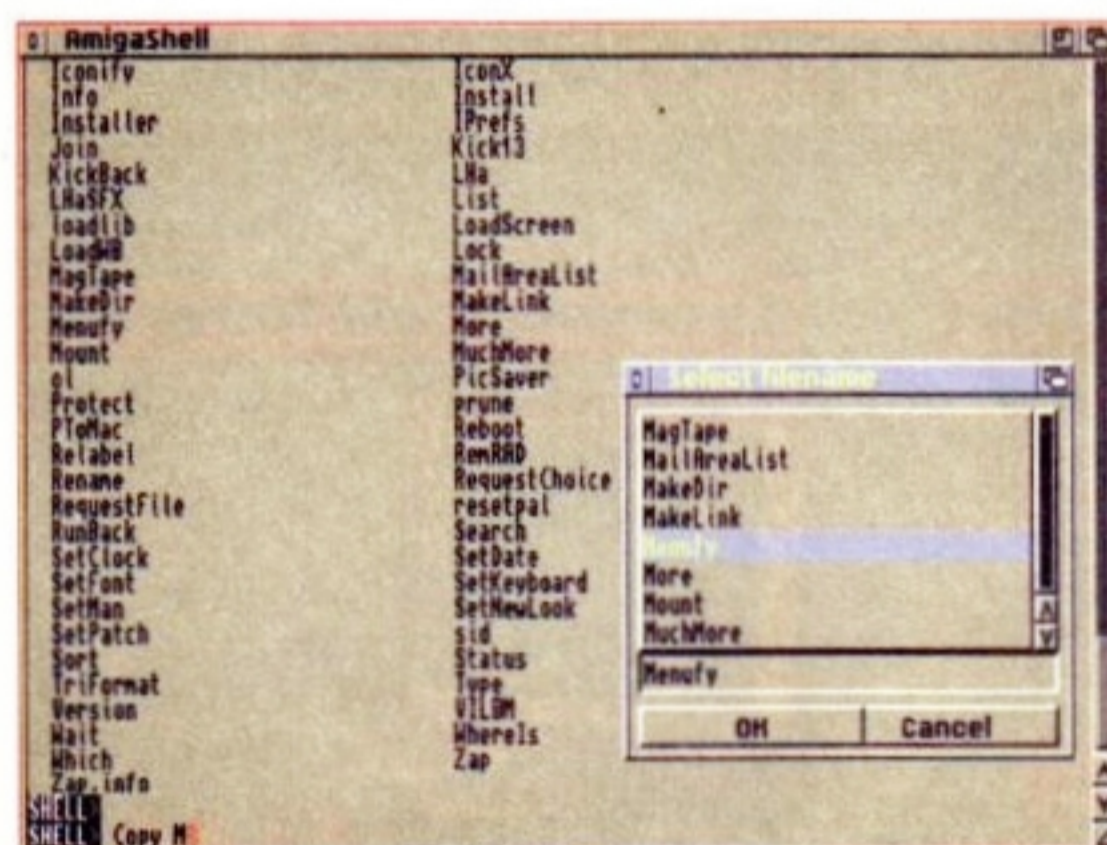
*HDClick* enables you to run all your fave applications from hard disk without having to hunt through drawers.

loaded into the *MultiView* (*AmigaGuide*) utility bundled with your Amiga (this is only included with Workbench 2.1 or higher). This file is considerably better than the normal documentation files because it takes full advantage of *AmigaGuide*'s HyperText links.

## CGFONTS

### All Workbenches

With the release of programs such as *Professional Page*, *Wordworth 2* and even *Workbench 2.0*, AGFA/Compugraphic (CG) outline fonts have become standard on the



*Kingcon* adds a whole range of new features to the Amiga's command line interface.

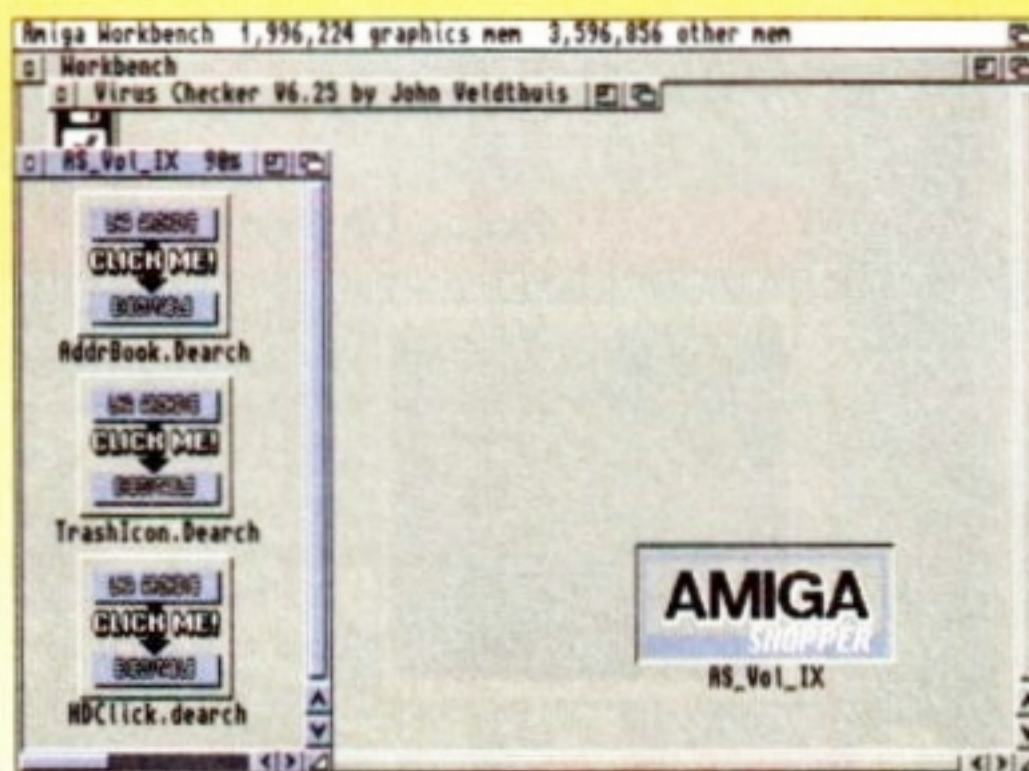
thanks to a little script called **INSTALL** that comes with the utility. Simply double click on the **Install** icon and *HDClick* will install itself onto the Boot partition on your hard disk.

Once you've installed *HDClick*, you'll need to configure it to suit your own particular system. The author, Claude Muller, has installed *HDClick*

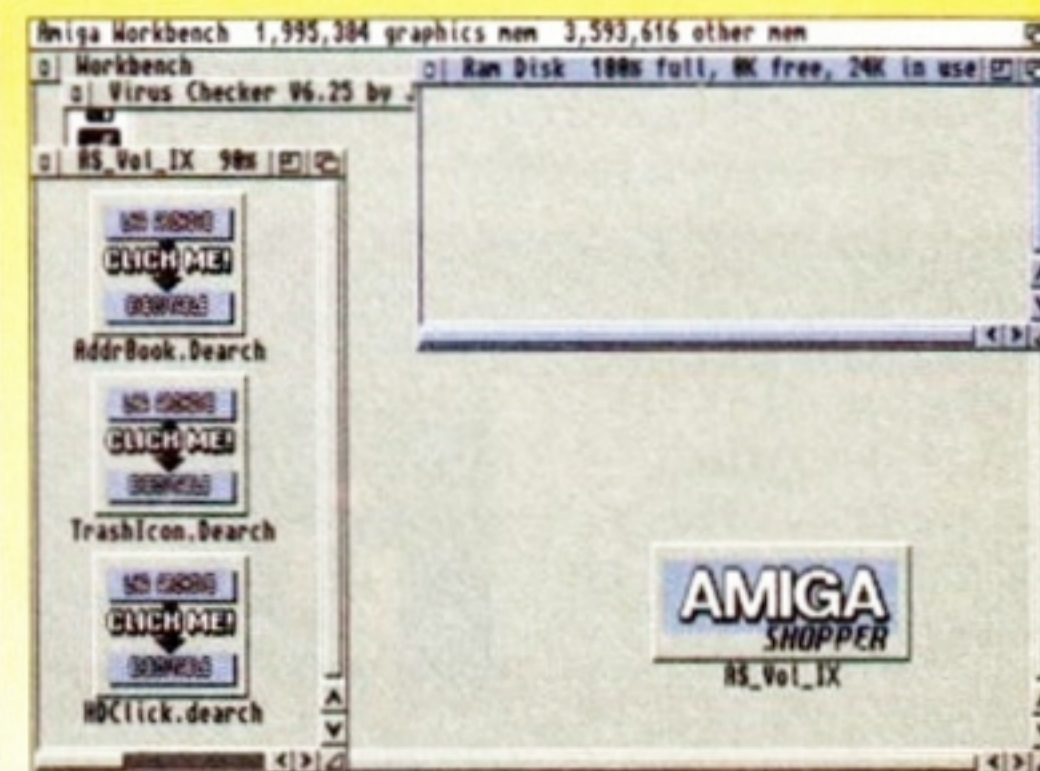
## SO JUST HOW DO YOU GET AT ALL THIS

1 First you should switch on and boot up your Amiga with Workbench. The programs on the disk have all been compressed, and must be decompressed before they can be properly used. This process is pretty much automatic, so long as you follow the steps detailed here. Before you go any further you need to decide where you want to decompress the cover disk files to. If you have plenty of RAM, you may want to use the RAM disk. Another option is to decompress to your hard disk. Otherwise, you'll need to decompress onto another floppy disk. If you choose this last option, then you'll need to have several blank floppies standing by. If you only have a single floppy drive, be prepared for lots of disk swapping. You can format floppies from the Workbench by single-clicking on their icon and then selecting the **Format Disk** or **Initialize** menu option (all depending on the particular version of Workbench you are using).

Now insert the copy that you've made of this month's cover disk. You'll see the *Amiga Shopper* icon appear on the screen.



2 The next step is to double-click with the left-hand mouse button on the *Amiga Shopper* icon. A window for the disk will then open, in which will be displayed the four icons for the software on the disk this month. The programs are all stored as archives and can be accessed via the icons shown in the window. These files have names that are terminated with the characters ".Dearch".



3 Let's say that you want to decompress the *TrashIcon* package. You'll need to decide where you want the decompressed material to be stored. If it's onto a floppy, then insert the disk and open its window. If you want to place the files on your hard disk or your RAM drive, then open their window instead. (Bear in mind that the contents of your RAM drive are lost when the power is switched off.)

# VITAL: READ THIS FIRST

The first thing that you *must* do with your cover disk is to write-protect it. To do this, ensure that the movable plastic tab on the disk is in the open position – that is, you can see through the hole. This means nothing can now be written to the disk, especially viruses, which are the last thing you want.

The next important step is to make a back-up copy of the cover disk. The easiest way to do this is to open a Shell window and then type the following at the prompt:

```
diskcopy df0: to df0:
```

Your Amiga will now ask you to insert the **SOURCE** disk (that's the cover disk) in **df0:** and then press the **<Return>** key to continue.

Your computer will now read some data from the disk before another window appears asking for the **DESTINATION** disk (the empty disk that you want to make a copy on). You'll find that you need to swap disks like this several times.

If you have more than one floppy drive, you can copy from one drive to the other, like this:

```
diskcopy df0: to df1:
```

Right, now that you've made a copy of the cover disk, hide the original in a very safe place and work *only* with the duplicate.

## CAN'T READ THE DISK?

We duplicate tens of thousands of disks, so inevitably a very small

number will be corrupted. You'll know if this has happened to you because you'll get a message saying either it isn't a DOS disk or that a **READ ERROR** has occurred.

The solution is straightforward. Just send the faulty disk to the address below, enclosing a SAE for the return of your replacement disk and we'll pay the return postage. The address is:

**Amiga Shopper 34**  
**PO Box 21**  
**Daventry**  
**NN11 5BU**

A replacement disk should then come rattling through your letterbox within a short while.

**Review Buffer** – what do you do if you want to redisplay the output from an AmigaDOS command or program? You use *KingCon*'s review buffer, that's what! *KingCon* automatically attaches a scroll bar to the lefthand side of any AmigaDOS Shell windows that you open. Whenever you want to view the text that has scrolled past the top of the Shell window, just scroll it up and the contents will be redisplayed.

**Intuition Menus** – with this facility, the Amiga's Shell finally meets Intuition. *Kingcon*'s Intuition menus provide quick and easy access to the utility's features without you having to remember the program's various key combinations (hot keys).

In order to use *Kingcon*, you'll have to decompress the *Kingcon* archive on this month's cover disk using the technique detailed below. Once *Kingcon* has been decompressed, you should find two drawers labelled **Handler** and **Docs** and a program called *Installation*. To install *Kingcon* on your Workbench disk or hard disk, double click on the *Installation* program and follow the on-screen prompts. To use *Kingcon*, you'll need to add the following lines to your 'StartUp-Sequence' file:

```
Assign CON: Dismount
Assign KCON: As CON: From
DEVS:KingCon-Mountlist
```

After this, you're ready to start using *Kingcon*. Reset your Amiga and reboot using the Workbench disk that you installed *Kingcon* on to. When Workbench appears, enter Shell and *Kingcon* should be loaded.

Amiga. CG fonts (as opposed to the bitmapped fonts that Amiga users are more used to) can be shrunk and expanded to any point size with virtually no loss in quality. The *CGFonts* archive on this month's cover disk contains no less than four new outline fonts for your perusal – GothicShadow, HandWriting, HeadHunter and IglooLaser.

These can be used with just about any program that supports CG fonts including *Professional Page* and *Wordworth 2*. If you're lucky enough to own a Workbench 2.0-based Amiga then you can convert them to Workbench CG Fonts using the *Fountain* utility (*IntelliFont* on Workbench 3.0 models) bundled with your machine. Full instructions on the use of *Fountain* can be found in your Workbench guide. However, before you can access these fonts,

you'll need to decompress the *CGFonts* archive using the technique detailed on the bottom of this and the previous page.

The four fonts don't have their own icons so you'll need to use AmigaDOS to install them for use with your applications.

## KING CON

### Workbench 2 and above

The Amiga's console handler has improved a great deal with the launch of Workbench 2.0 but it still leaves a great deal to be desired when compared to more modern command lines.

This is where *KingCon* comes in (great name, eh!). *KingCon* is a replacement for the standard AmigaDOS **CON:** device that adds a whole host of handy new features to the Amiga's command line interface

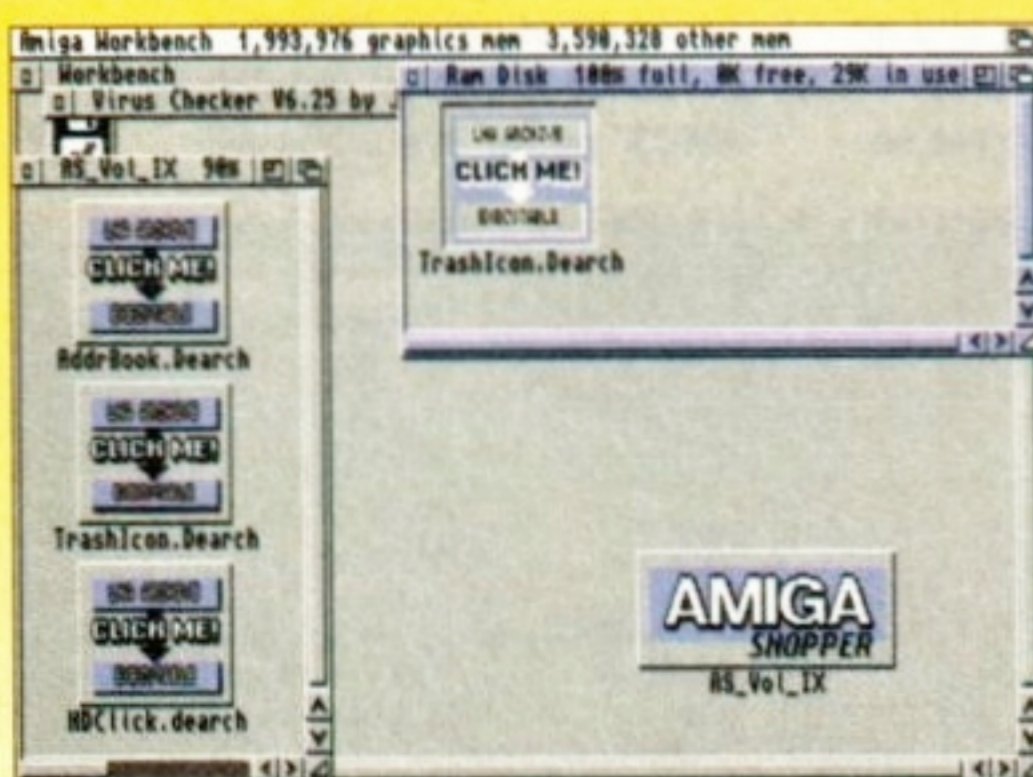
(Shell). Here's a brief rundown of what *KingCon* has to offer.

**Filename Completion** – a filename that is 30 or more characters long certainly helps to clarify its contents, but it can be a real pain having to re-type it over and over again every time you want to manipulate it from the Shell. *KingCon* takes out the hassle with this powerful filename completion feature.

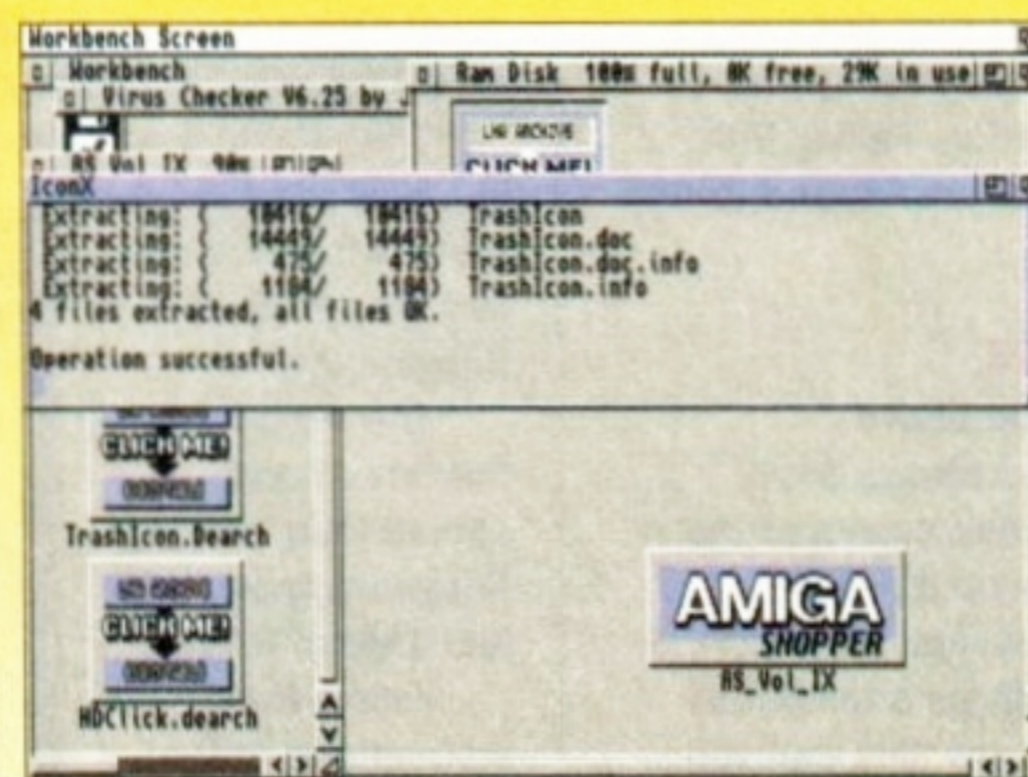
All you have to do is type the first few characters of a filename, press the **TAB** key and it will search through the current directory for a match. If it finds one, it will complete the filename. In the event of it finding more than one match, it will list the found files in a requester display.

All you have to do is to click on the one you want and *KingCon* will automatically insert it into the command line.

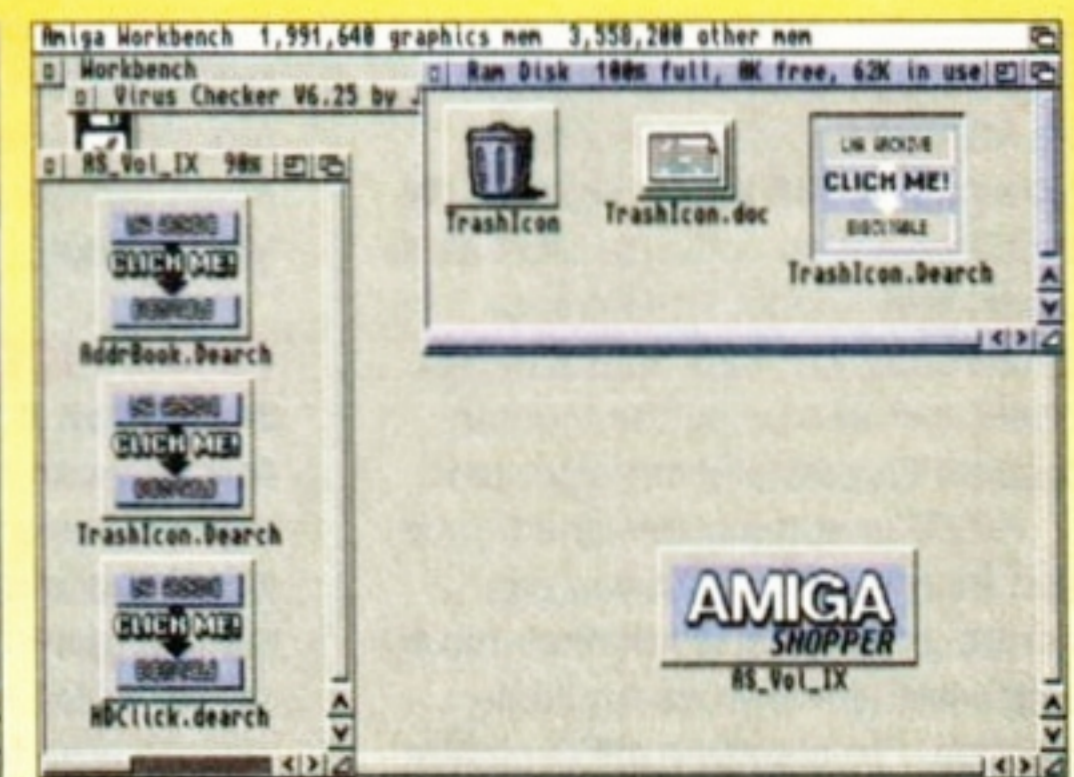
# LOVELY SOFTWARE ON YOUR DISK?



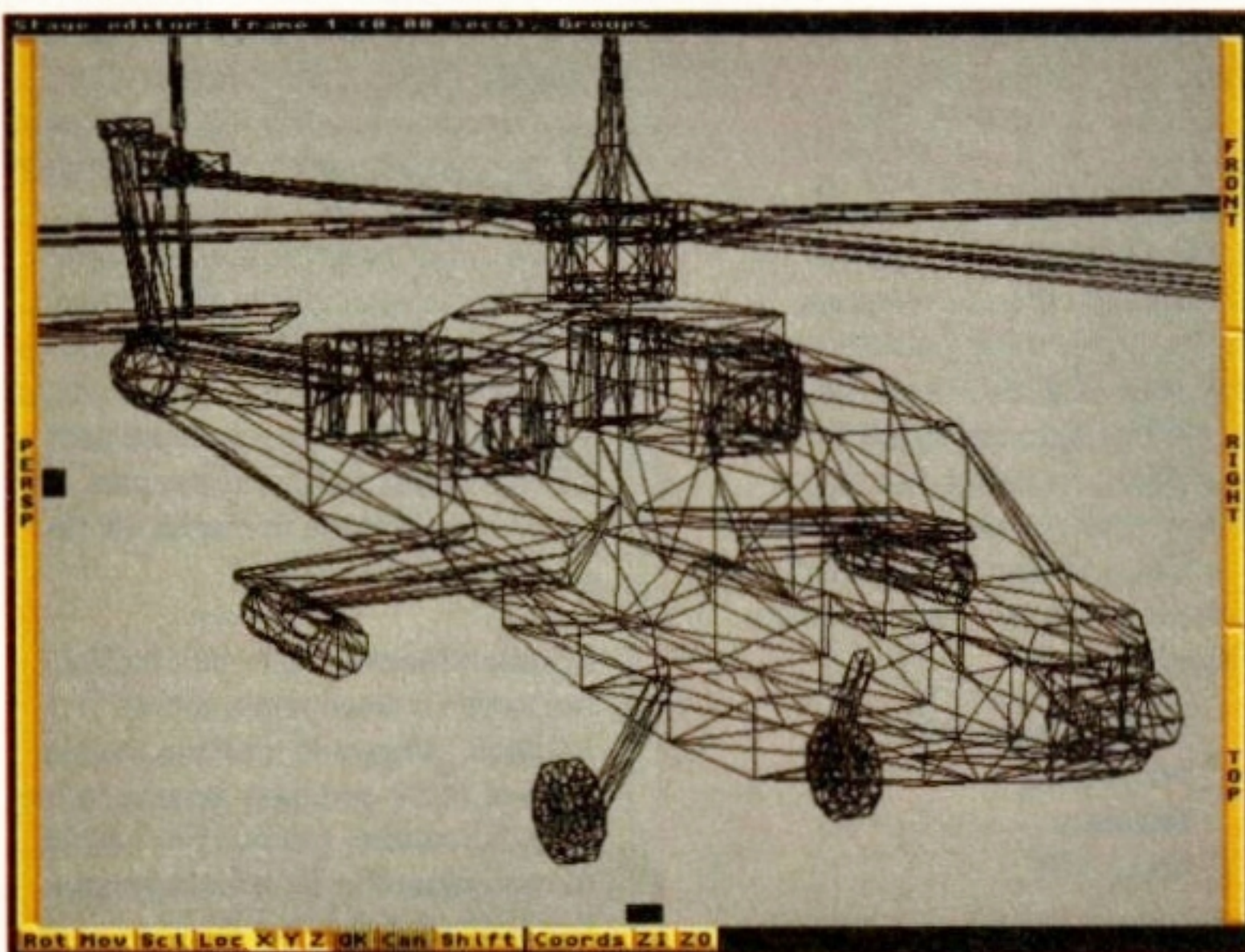
4 Drag the icon (say **TrashIcon.Dearch**) into the destination window. (Drag an icon by putting the mouse pointer over it and keeping the left mouse-button pressed. Release the button when you've placed the icon where you want it.) Now double-click on it. The de-compressing procedure will automatically begin, and another window called **IconX** appears on-screen to tell you how it's going.



5 In the **IconX** window will be listed all the files as they are extracted from the archive. If you are using an Amiga with only one disk drive then unfortunately you'll have to get involved with a fair bit of disk swapping. A **System Requester** window will appear each time you need to swap disks – simply put whichever disk is requested in the Amiga's drive. (Keep the source disk write-protected to be safe.)



6 Once the **IconX** window has vanished, the source window will still appear to contain only the **TrashIcon.Dearch** icon – that's because the window isn't automatically updated. Click first on the window's close gadget and then open the window again. It will reopen with the packages' icons displayed in their full glory. You can then run the programs or load the files as normal.



The Apache helicopter gunship in all its Imagine-created glory.

## FAST JPEG

### All Workbenches

The JPEG (Joint Photographic Experts Group) picture file format is becoming a standard on the Amiga thanks to its ability to compress picture files to a fraction of their original size. Unless you're lucky enough to own an image processing program such as ASDG's *Art Department Professional* that can handle JPEG files, JPEG pictures are about as useable as a hairdryer in a hurricane, but with *Fast JPEG* (also known as *FJPEG*), you can access JPEG picture files without having to spend a fortune on a dedicated image processing program.

In order to use *Fast JPEG*, you'll need to start by decompressing its archive by following the instructions detailed on the previous pages. When you decompress the archive, four files should be produced – two versions of the *FJPEG* program, a documentation file and a demonstration JPEG file for you to experiment with. Of the two *FJPEG* versions, one is for standard Amigas and the other is for those of you lucky enough to own AGA Amigas. The AGA version displays JPEG pictures in HAM8 mode whereas the standard version converts pictures to normal HAM mode. To improve picture quality, *FJPEG* automatically dithers pictures using the industry standard Floyd-Steinberg algorithm.

*FJPEG* is actually designed to be used from the Shell but you can operate it from the Workbench too by using what is known as 'multiple selection'. To display a JPEG picture from the Workbench, click once on the *FJPEG* icon and double click on the JPEG file you want whilst holding down the **SHIFT** key. *FJPEG* can't save pictures in IFF format, however, so you'll have to use a PD screen-grabbing utility such as *QuickGrab* to convert the JPEG picture into an IFF file format.

## MAGIC MENUS

### Workbench 2 and above

This is a handy little commodity designed specifically for the lazier Amiga user. It adds what PC owners call 'pop up menus' to the Amiga's Intuition environment so that instead of tying all your pull down menus to the menu bar at the top of every Intuition screen, it displays them at the current mouse position whenever the right mouse button is held down. This leaves you free to access menu options and submenus without having to move the mouse pointer up to the menu bar!

*Magic Menus* will only run on Amigas equipped with Workbench 2.0 or Workbench 3.0. Before you can use it, you'll have to decompress the *Magic Menu* archive by following the instructions at the bottom of the page. Running *Magic Menus* is simple – either double click on the *Magic Menus* icon or, better still, transfer it to the **WBStartup** drawer on your Workbench. If you've got the *Commodities Exchange* program loaded, you can also access *Magic Menu*'s requester that gives you a fair amount of control over the program's operation. Failing that, press **Control, Alt** and **Space** for the same effect.

## TRASH ICON

### Workbench 2 and above

The trashcan has always been regarded as a weak aspect of the Amiga's Workbench. It's really nothing more than just another drawer which acts as a temporary storage area for any files that you wish to 'trash'. The trashcan is automatically installed onto all newly formatted disks whereas, on other WIMP (Windows Icons Menus and Pointer) based computers, it lives on the desktop (the Workbench screen) so that when files are placed over the trashcan icon, they are automatically deleted.

When files are placed into the Amiga trashcan on a disk, it's still down to you to open up its drawer and manually delete all the files. If you simply leave the contents of the trashcan alone, they'll remain on your disk taking up valuable space.

In the **TRASHICON** archive you'll find a very handy utility for all Amigas based around Workbench 2 and above that attempts to solve the problem by providing a more effective trashcan for you.

Once *Trash Icon* has been decompressed, you'll find two files – the *Trash Icon* program and a documentation file. If you can't wait to see *Trash Icon* in action, simply double click on its icon and an icon (which looks amazingly like the trashcan that Workbench places onto your disks) will appear on the Workbench screen.

If you double click on this icon, a requester will appear giving you complete control over how *Trash Icon* operates – it's worth turning on the 'Confirm Deletion' option just in case you accidentally try to delete a file that you really want!

If you like the look of *Trash Icon*, then the next thing to do is to install it on your Workbench disk.

Don't worry, there's no complicated startup sequences to mess around with – just drag the *Trash Icon* icon into your **WBStartup** drawer and *Trash Icon* will automatically be loaded each time you boot up your Workbench disk.

## IMAGINE OBJECTS

### All Workbenches

If you were one of the thousands of people that bought issue 53 of our sister magazine, *Amiga Format*, we've got a real treat for you: two objects for use with the *Imagine 2.0* ray-tracing program that was included on *AF*'s cover disk (back issues are still available!).

The two objects included on our cover disk are: a Bengal tiger and an AH-64 Apache helicopter gunship.

The tiger is a complex object so you may need more than 1Mb to load it into your copy of *Imagine 2.0*.

The AH-64, on the other hand, should load into any Amiga equipped with just 1Mb of RAM.

Follow the instructions at the bottom of the previous two pages in order to decompress the **IMOBJECTS** archive. To load them into *Imagine 2.0*, select the **Detail Editor** and then select **Load**

from the **Object** menu. When the file requester appears, select the object you wish to load followed by clicking the **OK** gadget.

## ADDRESS BOOK

### All Workbenches

This archive contains the latest version of Toby Simpson's *Address Book* program that we've been covering in our 'Sailing through C' column. Before you can access it, you'll need to decompress the archive using the technique detailed on the previous two pages.

Then you'll find all the source code, includes and header files required to compile the address book program yourself. It's worth noting that, in order to display any of the source code, you'll need to load them into a text editor such as *DME* – the files have no corresponding icons. To do this you'll first of all need to open a Shell.

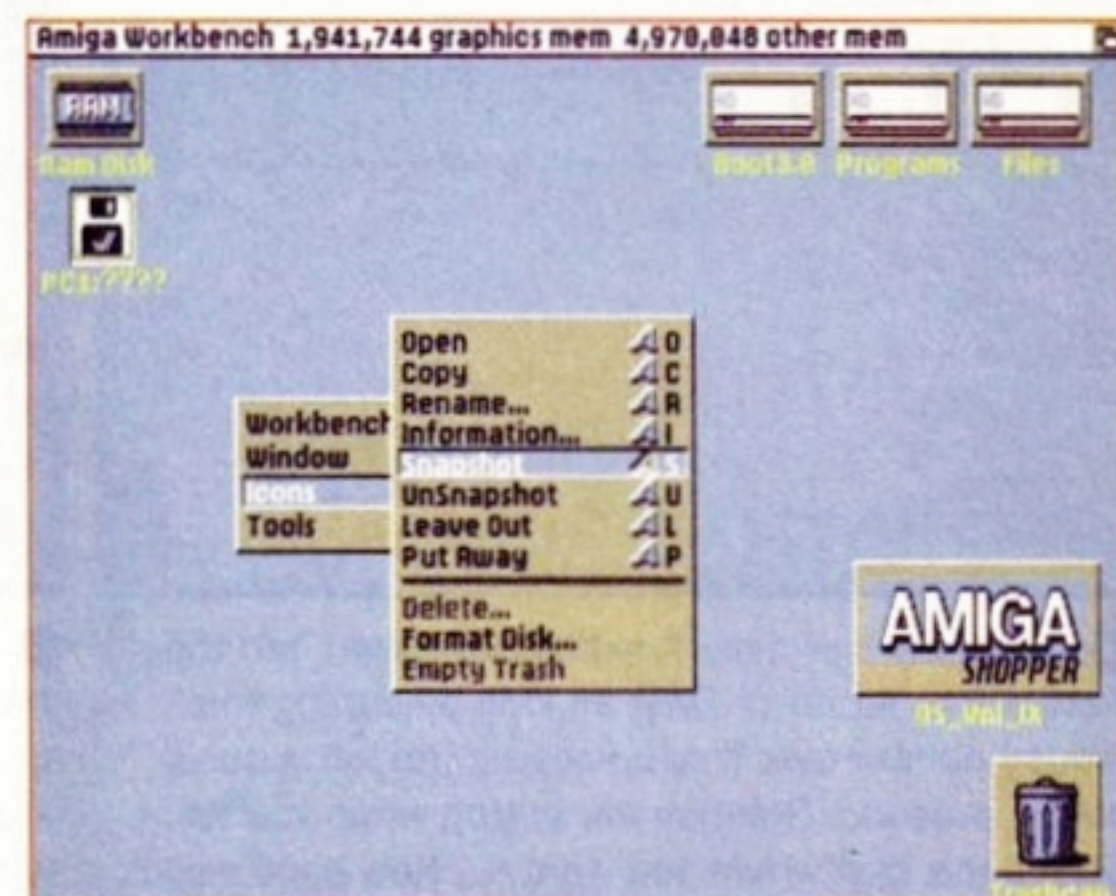
If you'd like to play with Toby's address book program without compiling it first, just change into the directory where you've dearchived it and type the name of the pre-compiled version – **address.x**.

## ASPAIN

### All Workbenches

If you've been following Jason Holborn's AMOS paint program tutorial over the past few months or so then you'll want to get your hands on this latest version of *ASPaint*. You can do this by decompressing the contents of the **ASPaint** archive. This latest version of *ASPaint* adds a powerful palette editor.

You can load *ASPaint* into your copy of AMOS by booting up AMOS and selecting the **Load** option. When the AMOS file requester appears, select **ASPAIN.AMOS** and it will be loaded into the AMOS editor. You can then run it simply by pressing the **F1** key or by selecting the **Run** option. *ASPaint* may not whip the pants off of either *DPaint* or *Brilliance* but as an example of AMOS' power, it's a beauty! **AS**



With *Magic Menus* installed on your system, you can access pull down menus immediately without having to move the mouse pointer up to the menu bar.

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# Get a head start

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**R**ight, let's get one thing straight from the start. The Amiga is not a games machine. Absolutely not. Nor is it just a 'home' computer. It is actually one of the most flexible and powerful computers you can buy. The Amiga can do pretty much anything you want it to do – and to a very high standard.

As an Amiga user you are in good company. The Amiga is used widely in the video industry. Foundation Imaging used the Amiga to create the special effects for Warner Bros' Emmy award winning *Babylon 5* movie and TV series. Amblin Imaging used the Amiga to create the *SeaQuest* DSV underwater craft special effects for Universal Studios as well as the previsualisation presentations of *Jurassic Park*. Remember *Max Headroom*? That made extensive use of the Am-mi-mi-ga too. If you watch *Quantum Leap* on BBC2, you will have seen stunning morphing effects created on the Amiga... the list goes on.

Of course, such effects require more than one Amiga working in isolation. Extra software and hardware is needed. To use that software and hardware effectively, a fundamental knowledge of how the Amiga operates is essential. If you've read the manual that came with your Amiga (and I am assuming you have!), you will have seen that there is a lot to take in. The manual is primarily concerned with guiding

you around Workbench, the Amiga's graphical user interface (GUI). In the next 10 pages we're going to look at Workbench more closely to discover some of the things that the manual doesn't tell you.

We will be looking at the most important Amiga concepts which all newcomers to the serious side of Amiga computing should be aware of. There's nothing worse than that feeling of frustration when something won't work and you can't figure out the reason. But fear not, we are going to lay the foundations upon which you will build your knowledge of the system and take those vital first steps towards becoming an Amiga expert.

One important concept you should understand fully from the outset is paths, and how they are written down. You know that programs come on disks. You know that those disks will have drawers (also known as directories), inside which might be more drawers. Somewhere inside one of those drawers will be the file you are looking for. We refer to that file by describing the path to it from the disk, through the drawers, eventually to the file itself. So **Disk:Drawer/File** would be an example of a full path and filename. Notice that the disk name has a colon (:) after it and that the filename is separated from the drawer name by a slash (/). If the file was inside a drawer that was itself inside a drawer, then the two drawers would be also be separated

by a slash – **Disk:Drawer/Subdrawer/File**.

Often, for the sake of clarity, the disk name is omitted from the path and written out instead. You might, for instance, be told to look in the **Devs/Printers** drawer on the Workbench disk – in other words, the drawer called **Printers** that is inside the drawer called **Devs** on the Workbench disk.

Confusion can arise because pull-down menus and the items in those menus are often written down in the same way as paths and filenames. The **All** item of the **Snapshot** submenu of the **Window** menu in the Workbench title bar (which is a bit of a mouthful, you'll agree) is more incisively referred to as the **Window/Snapshot/All** item of the Workbench menu. You can tell the difference between the two when reading because you will normally be asked to "run" Drawer/File and "select" Menu/Item. So if you are asked to run something you should normally be looking for it on a disk; if you are asked to select something you should find it in a menu.

Paths are a very important Amiga concept. Understanding how they are written and what they mean is essential to users. The stumbling block for beginners is the jargon word, "device", so this is where we will start.

## THE DOUBLE-DOT DEVICE

The floppy disk drive built into your Amiga is an example of a device.

Amiga devices are given names. The built-in floppy drive is named **DF0:**, which stands for Drive Floppy Zero. (It is numbered zero because in the madcap world of computing, people count from zero rather than one.) You can tell a device name because it is always followed by a colon (:), which some people call a "double-dot".

Three of the ports at the rear of your Amiga are for plugging physical devices into. The parallel port, named **PAR**, is for printers, scanners digitisers and other devices. The serial port, named **SER**, is mainly used for modems although there are a few other devices that use it. The external disk drive port is named either **DF1:** or **DF2:** depending on which Amiga you own and it can have more than just external disk drives plugged into it.

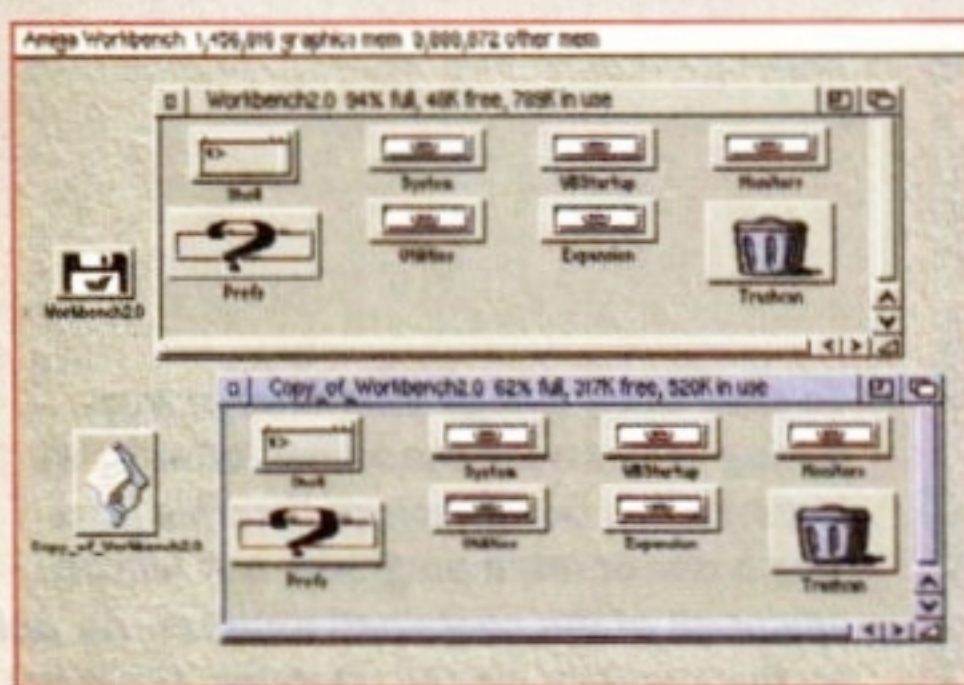
Forget the mechanism itself for a moment, and instead think of the Amiga device as simply a source or a destination for data. Whenever the Amiga accesses a device, it is either reading from it (for example, loading a program from disk) or writing to it, (sending something to the printer, for instance)

All of this is easy enough to understand. What muddies the waters is the "logical device name". If you think of physical device names as being names that refer to equipment that you can see and touch – hardware in other words – then logical device names are the opposite, that is names that identify things that only exist in the

**The Assign command enables you to teach the system in one word the route to a particular place on your disk by describing the path to that place. In our example, "Cathedral:" would be a shorter way of saying "England:SouthEast/London/Cathedral". Many applications, including Workbench, set up and use these logical device names so that they can always be sure of where to look for their own system files.**



# MAKING ROOM IN WORKBENCH 2.0



**Delete files from a copy of Workbench 2.04 or 2.05 disk and make about 300K of free disk space, enough to install a program or two.**

The Workbench 2.0 disk (Workbench 2.04 and 2.05, that is, not Workbench 2.1) was the last Workbench disk that could safely have files deleted from it without the user having to worry too much about the consequences. By removing most of the files that are not absolutely necessary, it is possible to make just over 300K of free space, which is enough to install a program or two on to it, enabling you to create customised boot disks for specific applications.

To install an application on to your customised boot disk you can either use the installation program supplied with the application, or follow the instructions in the application's manual. Many PD and shareware programs can be installed by simply dragging their drawer or program icons on to the disk icon of your boot disk. Normally, there will be instructions in a Readme file if there are any special installation procedures, and this applies to commercial applications as well as PD and shareware.

At the end of this text is a list of files that you can safely delete. I know it's obvious, but I have to say it: *do not delete these files from the original Workbench 2.0 disk that came with the computer.* Make half a dozen backups of this original Workbench disk, and put them somewhere safe. Then delete as many of these files as is necessary to make room on (another backup copy of) Workbench for whatever it is you want to install.

If just over 300K still isn't enough room to install your application, then you should boot from

a full Workbench disk and run your application from a separate disk by double-clicking its icon. It is possible that the application may need to add some "system" files to Workbench, in which case you can make room for them by again deleting any or all of the files in my list.

If you want to learn what these files do and why they can be deleted, buy a book on AmigaDOS and look them up, but there are a few important details that you should be aware of.

Firstly, not all the files have icons, so to delete them you will need to select the **All Files** item from the **Show** submenu of the **Windows** menu after opening the Workbench window, which makes all the hidden drawers and files appear.

Secondly, if you have anything plugged into your serial port, do not delete the **Devs/serial.device** and **Prefs/Serial** files.

Thirdly, included in my list are the files that enable the Amiga to synthesise speech. This feature is fun for five minutes but soon grates on the ear. The files in question are **Devs/narrator.device**, **L/speak-handler**, **Libs/translator.library** and **Utilities/Say**. The **SPEAK:** logical device is mounted in your startup-sequence and depends on these files. If you delete them, the attempt to mount **SPEAK:** will fail. You have two choices: either don't delete these files, or edit the **S/Startup-Sequence** file and put a semi-colon (;) before the **Mount SPEAK:** line to make it inactive. If at this stage you are unsure of how to edit the **S/Startup-Sequence**, leave the speech synthesis files where they are until you have learnt more about your Amiga.

Lastly, my list removes the **ARexx** application. You can tell which files these are because they will have the word "rex" somewhere in their filename or drawer name. Take particular note of the **Rexxc** drawer. You may delete all the files that are in this drawer (the **Rexxc/#?** in the list means "all files in the **Rexxc** drawer"), but do not delete the drawer itself because it is added to your path list in the **S/Startup-Sequence** file. If you are confident enough, remove the **SYS:Rexxc** bit from the list following the **Path** command, after which you may delete the **Rexxc** drawer – otherwise just leave an empty **Rexxc** drawer on the disk so that the **Path** command will not fail.

Now, this is a lot of fluffing about, which is

why many companies provide their software on so-called bootable disks. Alas, most of these bootable disks contain a mixture of old and new system files, and all of them will have been forced to delete even more files than are in my list, which is one of the main reasons a given application will work fine on one person's Amiga and will crash on someone else's. The difference will be that one is booting from a proper (or better) Workbench, the other is booting from a cut-down and slipshod Workbench. That's the beauty of a hard drive, you can always be sure that the full Workbench is correct and present. Well, almost always, but that's another story.

disk.info  
C/Break  
C/ChangeTaskPri  
C/CPU  
C/Date  
C/DiskChange  
C/DiskDoctor  
C/Edit  
C/Eval  
C/Filenote  
C/Lock  
C/MakeLink  
C/MagTape  
C/Protect  
C/Search  
C/SetClock  
C/SetDate  
C/SetFont  
C/Sort  
C/Status  
C/Type  
C/Which  
Devs/narrator.device  
Devs/serial.device  
Devs/Printers/generic  
L/speak-handler  
Libs/rexxsupport.library  
Libs/rexxsyslib.library  
Libs/translator.library  
Prefs/Serial  
Prefs/Time  
Rexxc/#?  
S/BRUTab  
S/HDBBackup.config  
S/DPat  
S/SPat  
S/PCD  
S/Startup-sequence.HD  
System/NoFastMem  
System/RexxMast  
Utilities/Clock  
Utilities/Say  
Utilities/Exchange

computer's memory after it has been switched on. But, just like physical devices, logical devices are only ever sources or destinations for data.

An example of a logical device is **SYS:**, which, upon switching on the Amiga, is automatically designated to be the main directory of your boot disk. Your boot disk – sometimes referred to as your system or startup disk – is the floppy disk (normally Workbench) you insert after switching on the Amiga. Or, if you own a hard disk (also known as a hard drive), it is the part of that hard disk from which the system files were loaded. The main directory – or the root directory to give it its proper name – is the first directory you see when

you open a disk icon.

The term **SYS:Prefs**, for example, refers to the drawer named **Prefs** on the disk from which you booted, not any other drawer named **Prefs** on any other disk.

Various other logical devices are set-up or "assigned" automatically by the Amiga. Among these are the **C:** logical device, which will be the **C** directory on your boot disk (**SYS:C**), **S:** will be the **SYS:S** directory, **DEVS:** is **SYS:Devs**, **LIBS:** is **SYS:Libs**.

From this, can you see that **C:** and **SYS:C** mean the same thing, but **C:** and **SYS:C** do not necessarily mean **DF0:C** because the disk currently in the built-in floppy disk drive (**DF0:**) might not be the disk

from which you booted. In a nutshell, **DF0:** is the actual physical slot into which you put the boot disk, **SYS:** is the boot disk itself. If you were to take the boot disk out of **DF0:** and insert it into **DF1:**, the Amiga will still know that disk as **SYS:**, even though it is now in a different disk drive.

To the beginner, volume names appear to be the same as logical device names and are consequently a cause of early confusion. There is a subtle difference. A volume name is the actual name of the disk – the name that appears underneath a disk's icon on the Workbench. The difference is that, while you may rename a disk so that its volume name has changed, its logical device

name (if it has one) will remain the same. For example, if you booted from the **Workbench3.0** disk and then renamed it as **MrBlobby**, that disk would still be the **SYS:** logical device, thus enabling the Amiga, or any program that is running, to always be able to find the files it requires in order to operate correctly, even if some maniac has dashed on to the pitch and moved the goalposts. Any program looking specifically for **Workbench3.0:Prefs** would fail to find that directory because the disk that was named **Workbench3.0** is now named **MrBlobby**. Any program looking for **SYS:Prefs**, on the other hand, would still find the correct **Prefs** directory



To save every Amiga programmer from having to re-invent the wheel, often-used routines can be written as libraries from which one or more programs can borrow any or all of the contained routines. As well as the standard system libraries, there are some important PD and shareware ones like ARP and ReqTools that have made their authors famous worldwide.

on the **MrBobby** disk because changing its name from **Workbench3.0** to **MrBobby** would not change the fact that the Amiga knows that disk under the logical device name **SYS:**. The Amiga would "see" that the goalposts had been moved and would reposition the goalkeeper accordingly.

So far, so good. But what if you took **MrBobby** to another Amiga, renamed it back to **Workbench3.0** and then put it back in your Amiga?

Well, that wouldn't work because your Amiga will have no record of the name change and would therefore still be looking for a disk named **MrBobby** whenever anything tried to access the **SYS:** logical device. You moved the goalposts without the Amiga "seeing". **SYS:** would need to be "reassigned" to the **Workbench3.0** volume name. This would happen automatically if you rebooted with that disk. Alternatively, you could use the **Assign** command.

## ASSIGN FROM ABOVE

**Assign** is the command that sets up and controls which logical device names are designated to which paths. Just as the system automatically assigns **SYS:** to be the root directory of the boot disk, **C:** to be **SYS:C**, **S:** to be **SYS:S** and so on, so the **Assign** command enables any directory on any disk to be assigned a logical device name.

**Assign** is a command that is typed into a Shell window rather than

run from the Workbench by double-clicking an icon. To save opening a Shell window, you can select the **Execute Command** item from the Workbench menu and type the command into the requester that pops up. First comes the command (**Assign**) followed by a space and then the logical device name. This can be any name you like but it must end in a colon. Then comes another space followed by the path to which the logical device name refers. You

# THE TROUBLE WITH WORKBENCH 3

Commodore gave you five disks with your A1200. Only one of them is labelled **Workbench**, but the operating system has grown so large that what used to fit onto one disk in the old 1.3 days now requires two more disks – **Extras** and **Fonts**. There are many important files on these disks and if you are using your 1200 with floppy drives, there is no easy way to properly operate it.

You should be aware that the **Workbench** disk has less than 100K of free space on it. On this disk you'll notice a drawer called **Prefs**. Inside it is another drawer called **Presets**, but none of the preferences editors themselves are in the **Prefs** drawer. These 15 programs, and their icons, consume almost 260K of disk space in the **Prefs** drawer on the **Extras** disk. Not to worry, you can leave them there and run them from the **Extras** disk, but when you select the **Save** option from any of these programs they will want to store your preferences settings on the **Workbench** disk in the **ENVARC:Sys** drawer.

Calm down, don't let terms like **ENVARC:** spook you. When you switch on the 1200, the **ENVARC:** logical device is automatically set to be the **Prefs/Env-Archive** drawer on the disk from which you are booting. See the main article for an explanation of exactly what a logical device is.

If your boot disk does not contain a drawer called **Sys** inside the **Prefs/Env-Archive** (**ENVARC:**) drawer, the **Save** functions of all the preferences editors will fail. You'll get an "object not found" error message. The "object" that the preferences editor can't find will be the **Prefs** drawer, the **Env-Archive** drawer inside **Prefs**, or

the **Sys** drawer inside **Prefs/Env-Archive**. A standard Workbench 3 disk contains these drawers, one inside the other, and on booting the 1200, **ENVARC:Sys** is where the system will look for your preferences settings; if it can't find them you'll have to put up with the built-in defaults.

Now, the 100K of free space on the Workbench 3.0 disk is enough to store these settings. But many applications that are provided on so-called bootable disks do not have room. Most won't even have a **Prefs** drawer. For this reason, the only sensible way to run your 1200 from floppy is to always boot from (a backup copy of) your Workbench disk. If you don't boot from Workbench, anything may or may not happen. When things don't work it will almost always be because you are not running a full and proper operating system. So boot from Workbench and run your application by inserting its disk into a drive and double-clicking its icon. If an application insists on you booting from its disk, not Workbench, then it will be a badly written application and you should prepare for trouble.

Font trouble, for example. The Workbench 3 disk doesn't have a **Fonts** drawer. All your fonts are on the **Fonts** disk. If you are booting from floppy, whenever any program wants any font other than the built in **topaz8** one, it should ask for the **Fonts** disk. But if you've booted from a disk other than the Workbench 3 disk, who knows what will happen? It depends entirely on the application that is asking for the font, and the structure of the disk from which you booted.

At this point, single floppy drive users may be

wondering how on earth they are supposed to run their 1200s properly. The blunt truth is that you can't. It is difficult and cumbersome enough with two floppy drives, with just the one floppy drive it is nigh-on impossible.

The Workbench 3.0 manual assumes from page 1 of Chapter 1 that you have a hard drive. Very little of the advice and documentation in that manual caters for floppy disk users. This is a very large hint from Commodore that, even though they don't specifically say so, a hard drive is required to use the 1200 properly. With a hard drive, the system is booting from a big disk that has plenty of room on it for all the system files, and those files will be in all the places the system will expect to find them. Without a hard drive, the Workbench 3 system struggles to cope.

With older versions of Workbench it is possible to delete some of the less important system files (see the Workbench 2.0 panel) to make room for an application. But not with Workbench 3. It's a big, powerful operating system that depends on most of the files spread across not only the three disks mentioned above, but also the **Locale** and **Storage** disks. If you intend to do anything with your A1200, even if it is "just a bit of word processing", do yourself a favour and buy a hard drive, it will be the best money you will ever spend.

And dads, don't let me hear any more of this "It isn't worth buying a hard drive, it's only for the kids" rubbish – without one the kids might go back to thinking that the Amiga is just something you zap aliens with.

# WHAT ABOUT WORKBENCH 2.1?

To all intents and purposes, Workbench 2.1 is Workbench 3.0 without the AGA bits. And like Workbench 3.0 (see the Workbench 3 panel), operating Workbench 2.1 from floppy disk is nigh on impossible. If you are struggling with floppies and Workbench 2.1, you would be better advised to go back to using Workbench 2.04 or 2.05 until such time as you can afford a hard disk.

finish by pressing the Return key. Try this simple example:

ASSIGN T: RAM:T

This assigns the logical device name **T:** to the **T** directory in the RAM disk. This particular assign is actually part of the normal Amiga startup procedure (**T:** is a device that many programs will use to store temporary files) but it does no harm to issue the command again.

Many applications these days will automatically add one or more **Assign** commands to your boot procedure upon installation. These enable the application to remember exactly where you installed it. For example, you may have installed an application called **WonderFile** on your hard drive in the **Work:Databases/WonderFile** directory, and the installation program may have added a line of instructions to your boot procedure that reads **Assign WFILE: Work:Databases/WonderFile**, thus creating a new logical device name, **WFILE:**. Accessing the **WFILE:** logical device is now exactly the same thing as accessing the **Work:Databases/WonderFile** directory.

*If AmigaDOS had to do every job asked of it itself, the Amiga would not be able to multitask, at least not very quickly. So jobs are immediately delegated as they come in. The happy helpers known as device drivers carry out all the tasks to do with running physical devices like printers and monitors, as well as software devices like CrossDos and DataTypes.*

This all works well until the day you decide to move the **WonderFile** drawer to another location on your hard disk. Although you have moved the drawer, the **Assign** command in the boot procedure is still "pointing" at the old location (or following the old path if you like). Much grinding of teeth ensues as the beginner gets hot under the collar and totally fed up with "Object not found" and "Insert volume so-and-so" error requesters. This most common of problems normally occurs because we have a pathological mistrust of automatic installation programs, so we install software in a temporary location – in the RAM disk for example, "just in case it formats my hard disk", which it won't, of course.

After installing it, running it and finding that it works, many people will just drag the program drawer from the RAM disk (or from wherever it was temporarily installed) to its permanent location on the hard disk, totally forgetting that the **Assign** command in the boot procedure is still pointing at where the software was initially installed. It is important to remember that computers don't make mistakes, but their operators (that's you and I) do.

Most software designed to be run from a floppy disk will use the volume name (the disk name) to identify the program disk rather than a logical device name. However that software may well set up logical device names for directories on that program disk, particularly if you are instructed to boot from its program disk rather than the Workbench disk.

Thankfully, most of this assigning stuff is invisible to the end user (that's you) but, now you know what is going on, you stand a fighting chance of being able to deal with any problems that crop up.

Okay, I know you've paid out lots of money and that problems shouldn't crop up but this is computer software you are using, not a ballpoint pen.

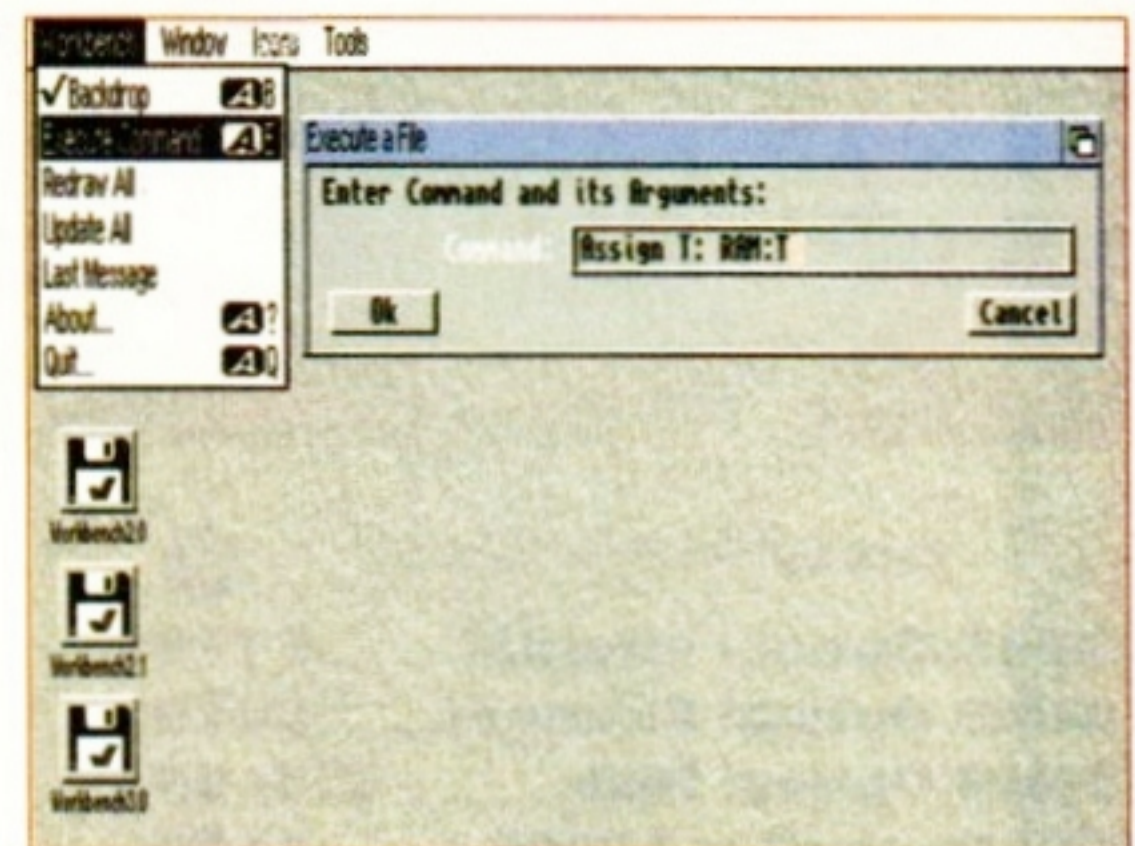
## DIGGING DEEPER

Anyway, let's get off this path now and dig a bit deeper into the Workbench disk. Open the Workbench disk window and you'll see six, seven or eight icons depending on which version of Workbench you are using. Click once in the disk window to make sure it is the active window, then select **Window/Show/All Files** from the Workbench

menu. Some more drawers will appear, and they don't all fit in the window, so make the window a bit bigger and select **Window/Cleanup** from the Workbench menu. If you're not familiar all this opening and re-sizing windows stuff, now would be a good time to go and read the Basic Operations chapter of your Workbench manual.

The directories we discussed above, and a few more, are now visible. The **C** directory is where system commands (like **Assign**) are stored. Open that drawer if you are curious. There are quite a few files in there so you may have to wait a while for all the icons to appear, and then re-size and cleanup the window. Normally you would leave this directory just as it is, neither adding nor deleting any files. If you want to add your own commands (such as PD/shareware ones) they are better placed in the **Tools** or **Utilities** drawer so that you don't get confused about which are standard system commands and which aren't.

The commands in **C** are designed to be run from the command line, not by double-clicking icons – to be run from a Shell, that is, or from the **Workbench/Execute Command** requester. At this stage



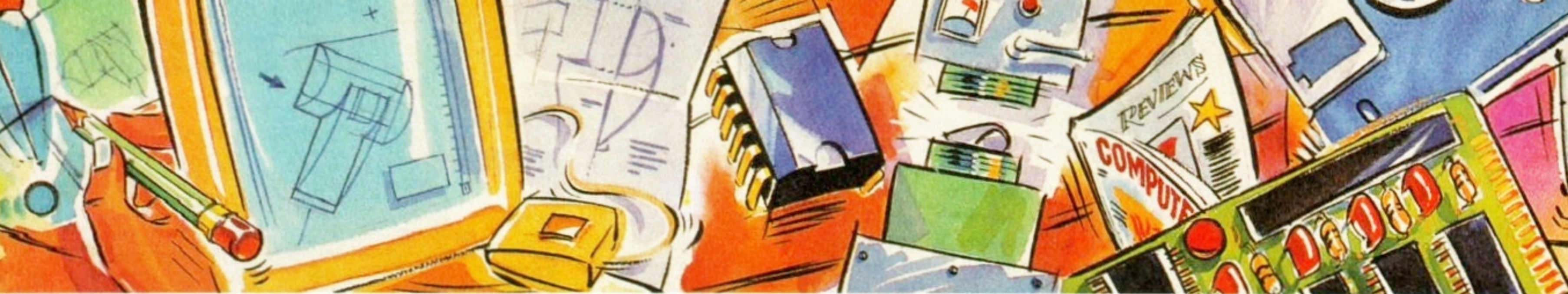
*There is no need to open a Shell to type in AmigaDOS commands. Instead you can use the **Execute Command** option from the Workbench menu – it is much quicker to get at.*

you needn't concern yourself with what they all do, I promise that you are not missing out on much, most of those commands are there for applications to make use of. When you feel ready for further exploration, treat yourself to a book on AmigaDOS.

The **Libs** directory is of supreme importance. It contains a few files that are a type of program known as a shared library. All Amiga applications (and even plenty of games, though they don't like to admit it) will stroll into these libraries and "borrow" any or all of the routines contained within them. They save programmers from re-inventing the wheel. If a few applications are running at the same time and all of them want to make use of the same library, no problem – the Amiga will open the library doors for the first program that asks to come in, and then any old program can wander in and ask to borrow the routines in that library. If more than one application wants to borrow the same routine, no problem, the Amiga makes them share it. If an application leaves a library and tries to lock the doors behind it, the Amiga will jam the doors open until

continued on page 20





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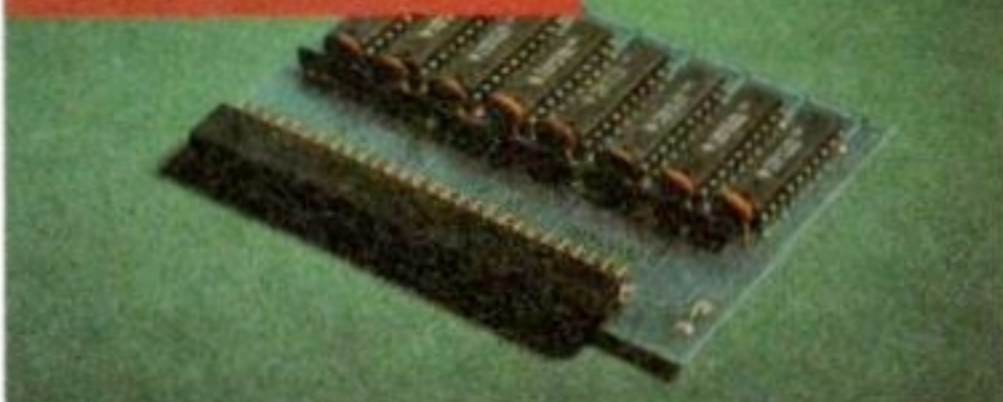
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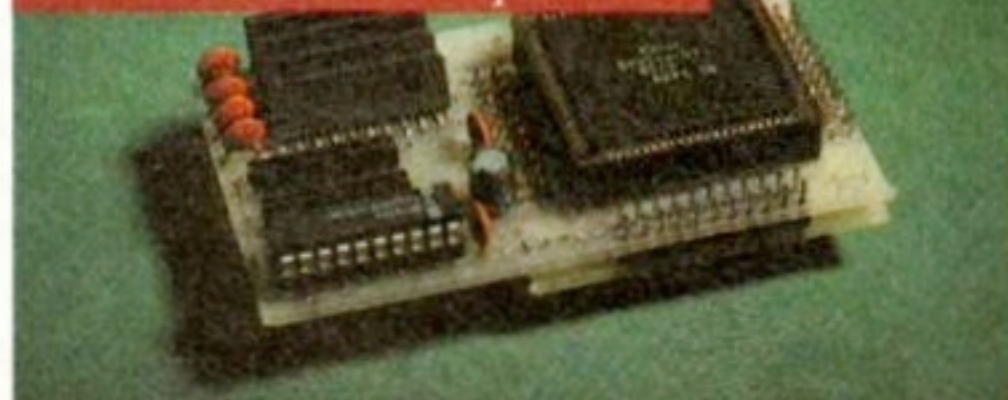
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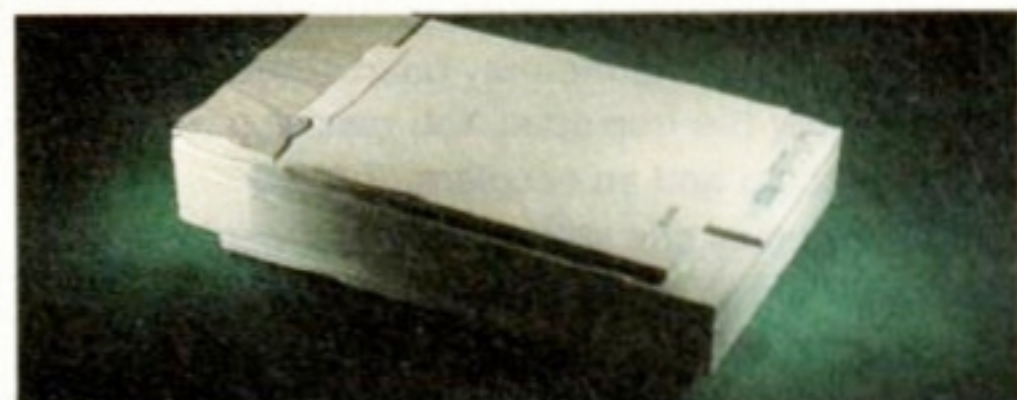


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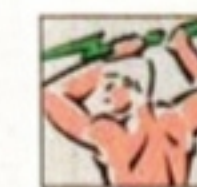


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# WHERE DO YOU GO FROM HERE?

If you are going to use your Amiga creatively, let's get a few things straight. Firstly, if you bought an A600 recently because it was going cheap, the reason it was going cheap was because you are severely restricted as to how far you can expand it. Fitting a fairly large hard drive is not a problem — the interface for that is already inside the machine. The major restriction is memory. You can add 1Mb underneath in the trap-door, and up to 4Mb in the PCMCIA slot on a so-called smart card. That gives you 6Mb in total, which is quite a lot and plenty for most purposes, but that is as far as you can go. If you fit this maximum amount of memory and you still get "not enough memory" messages, it will be time to buy a new Amiga.

Next, the A1200. You might be upset about the fact but, despite the bundled applications software, the A1200 as it comes in the box is still just a games machine. If you want to use it

creatively you need a hard drive and at least another 4Mb of memory. If you can afford 8Mb, go for it, otherwise buy a memory board that has 4Mb of chips on it and room for another 4Mb of chips when you can afford to buy them. Trust me, you will need all this memory, particularly if you are using any software that takes advantage of the AGA 256-colour screen modes. You can buy boards that have a 'maths coprocessor' on them. This little widget will make your Amiga run a little more quickly. It's nothing spectacular but it is certainly worth the small extra cost.

Don't waste your money on smart card memory for the PCMCIA slot. This memory is quite expensive and runs very slowly. Sticking a memory card in the PCMCIA slot actually slows down the A1200. A battery-backed PCMCIA memory card might be useful for transferring data between machines, but that's about it.

Without extra memory and a hard drive, it is very difficult indeed to put your A1200 to creative use. These items should be the highest ones on your "wish list" of purchases, even before applications software. Don't make the mistake made by so many others of giving the applications a higher priority — you will only be letting yourself in for hours, days, weeks of frustration of trying to use software that requires greater resources to do anything other than load.

If you want everything on your A1200 to happen more quickly, you need an accelerator. These look very similar to memory boards and fit into the slot under the trap-door. You cannot have both a memory card and an accelerator fitted because there is only one slot. Accelerator cards have room on them to add memory chips so, if you are hankering after more memory and speed but can't afford both at once, be aware that if you

continued from page 17

all the other applications that are using the library have also left.

When an application asks to open a library not built into the computer (on the Kickstart chip), the Amiga will automatically look for it in the **LIBS:** logical device — that's the **Libs** directory on the disk you booted from. If the library isn't there, the application won't be able to open it, resulting in a "Can't open so-and-so library" error requester. The files in the **Libs** directory on the Workbench disk are all concerned with operating basic functions of the Amiga. But any programmer can write a library and, provided the documentation is freely available, all other programmers can borrow the routines in that library to use in their own programs. This is common practice in the Amiga programming world.

Another main attraction is the **Devs** directory. This contains files related to driving devices at the system level. The system will look in **DEVS:** (the **Devs** directory on the disk you booted from) for all manner

of things. If you want to run a printer, the driver for that printer driver must be in **DEVS:Printers**. Not only that, but the file that drives the parallel or serial port (parallel.device or serial.device) and the file that drives the **PRT:** logical printer device (printer.device) must be in **DEVS:** as well. If one of these files is missing, expect problems when trying to print.

If you want to connect a particular type of monitor, the monitor driver must be in **DEVS:Monitors**. The keymap, which is the driver that decides what character is displayed on the screen when you press a key on the keyboard, must be in **DEVS:Keymaps**. The files that instruct the system how to set up software devices like **PC0:** (that bit of magic that enables MS-DOS floppies to be read and written in Amiga disk drives) are kept in **DEVS:DOSDrivers** for Workbench 2.1 and 3.0, and in the **DEVS:Mountlist** file for earlier versions of Workbench.

## NOT MY TYPE

An excellent innovation that comes with Workbench 3.0 is DataTypes.

This is a series of programs which, like libraries and device drivers, enables an application to do things that the application itself does not know how to do.

DataTypes deal with different types of data file formats (computer information stored on disk in a particular, standardised way). Most data that Amiga applications deal with is stored in memory in a totally different format to that which it is stored in the data file. To conserve disk space or to help speed up access times, most data file formats are either compressed or encoded. When an application wants to read and use this data it has to first be decompressed or decoded into what we will call a "raw" format. If you think of the stored data (the file stored on the disk) as being cooked, in order for an application to understand and use that data it must first be "uncooked" — made raw again.

The trouble is that there are lots of different computer data file formats. Graphics alone can be stored in dozens of different formats.

For a graphics application to know how to load all of these formats, the programmers have to spend much longer writing file import routines than they would like to. Happily, the Amiga has a well supported graphics file format known as **IFF-ILBM**. This stands for Interchange File Format (the standardised way of storing data) InterLeaved BitMap (the type of data being stored). But no matter what data file format the graphic is stored in, it can only be displayed by first converting it into raw graphics data. Which is where DataTypes come in.

Picture this scene: you attempt to load a picture from disk from your graphics application that is stored in the XYZ graphics format — don't worry about what XYZ is (I made it up), the point is that it is not the standard **IFF-ILBM** format. The application, which was written for the Amiga, supports only the **IFF-ILBM** graphics format, so it refuses to load the XYZ file. That is what might happen if you are using Workbench 2.1 or below, before DataTypes were invented.

If you are using Workbench 3.0

**Workbench 3 gets around the "too many file formats to cope" problem with its new DataTypes system. Instead of a program decoding data itself — which could be text, graphics, sound or just about anything — the program asks the system to decode data it doesn't understand and provide it with standard raw data that it does understand. Several DataTypes come with Workbench 3.0, more will come with 3.1, and there are a growing number of PD and shareware ones.**



buy a memory card it will not be able to be used when you buy an accelerator. It should be quite easy to sell your A1200 memory board (or the chips on it at least) second-hand, but you'll be lucky to get much more than half what you paid.

Now for the rich kids. If you bought an A4000, your top priority must be more memory. Stick another 8Mb in there as quickly as you can.

No matter which Amiga you bought, if you are doing a lot of word processing or desktop publishing you will obviously need a printer. The best advice I can give you is to steer clear of "pin" printers. Inkjet printers produce much higher quality output, are faster, and cost about the same. Any inkjet printer that emulates a Hewlett-Packard DeskJet or Canon bubble jet is supported on the Amiga, although you may have to buy extra printing software for full support as the drivers that come with Workbench are a bit limited.

If you want a colour printer, currently the only low-priced ones worth considering are the DeskJet 310 and DeskJet 500C. Neither is properly supported by Workbench so you will require extra printing software that costs about £50. Colour "pin" printers are a false economy. They are very slow, very noisy and the ribbons contaminate and wear out very quickly.

Laser printers are plummeting in price. If you've got £500-£1,000 to spend on a printer and are not bothered about colour, checkout the new LaserJet 4 range. They are all superb printers, although obviously the more it costs, the better it is. Again, Workbench currently has no proper support for LaserJet 4 printers so you'll need to add the cost of that extra printer software.

Lastly, you might consider buying a second floppy drive. For A1200 owners this is not an alternative to buying a hard drive; it will make your

life only slightly less frustrating. A600 owners without hard drives will benefit from a second floppy drive because they will be using Workbench 2.05 which isn't so difficult to run from floppy disk. If you own a hard drive, a second floppy drive is by no means essential, but it does enable you to make backups a lot more easily.

Your initial purchase of an Amiga was just the start of it all. Just like buying a video recorder or hi-fi, to use the equipment you have to buy more – tapes to play on the video, music to play on the hi-fi. To use the Amiga you have to buy software to run on it, and a lot of that software – even inexpensive software – will require more than just an "out of the box" Amiga.

It's the same with any computer, but the great advantage you have is that software and some hardware, is much, much cheaper for the Amiga than for other machines.

or better, and if the application knows about DataTypes, when you ask it to load an XYZ file, it simply says to the Amiga: "Oi, you, get off your backside and decode this XYZ stuff for me." The Amiga looks in the **DEVS:Datatypes** drawer to see if it knows what an XYZ file is and, upon finding that it does, decodes the XYZ graphic into the raw graphics data which any Amiga software that displays graphics must be able to understand. It then hands that data over to the application that asked for it so it can be displayed on the screen.

The DataType system is not limited to just graphics data. Literally any type of data can be handled in this way, provided there is a support file for it in **DEVS:Datatypes** and that the relevant program or programs to decode the data are in the **SYS:Classes/Datatypes** directory.

Workbench 3.0 comes with DataTypes to handle **IFF-ILBM** graphics, **IFF-8SVX** sounds, **ASCII** text and **AmigaGuide** help files. A single Workbench 3.0 system program, **MultiView**, is able to display graphics, text and help files and play sounds by using these DataTypes to decode the data. The DataType system has proved very successful and will be extended with later versions of Workbench to cater for animations and many other types of data. Already there are a few PD and shareware DataTypes available to handle the popular **PCX**, **GIF** and **JPEG** graphics file formats, although sadly, very few commercial applications currently support the DataTypes system. Once again, it is the PD and shareware programmers who are blazing the trail.

So if there was an XYZ DataType, **MultiView** would also be able to display XYZ graphics. As it comes on the Workbench disk, **MultiView** will

display whatever file you have selected on the Workbench screen. This isn't much use for multi-coloured pictures but there is a **Use Separate Screen** item in a **MultiView** menu that can be used to display a graphic on a screen of its own. If you want this to happen automatically, you have to play around with the next Amiga concept we are going to discuss – ToolTypes.

## TOOLS OF THE TRADE

You know how with some applications you can set-up the way you want them to operate and save those preferences so that whenever you start an application it opens just the way you like it? Well, ToolTypes is one of the Amiga's standard ways of specifying application start-up preferences.

You can get at them via the **Information** item in the **Icons** menu of Workbench. Click once on an application's icon, then select **Icons/Information** to get the information requester for that icon. The name of the application will be at the top of the requester, with the word **Tool** in brackets after it – tool is just another word for program or application. In the lower half of the requester you will see the ToolTypes list. **MultiView's** ToolTypes will all be enclosed in brackets, indicating that all of them are currently inactive. Third from the top you'll see the **SCREEN** ToolType, this is the one that will cause **MultiView** to automatically open a separate screen of the appropriate resolution for whatever is being viewed. To make it active, simply click on that item in the list, remove the brackets in the gadget below the list, press the Return key to accept the new ToolType, and click the **Save** button.

All the settings in the **Information** requester are saved in

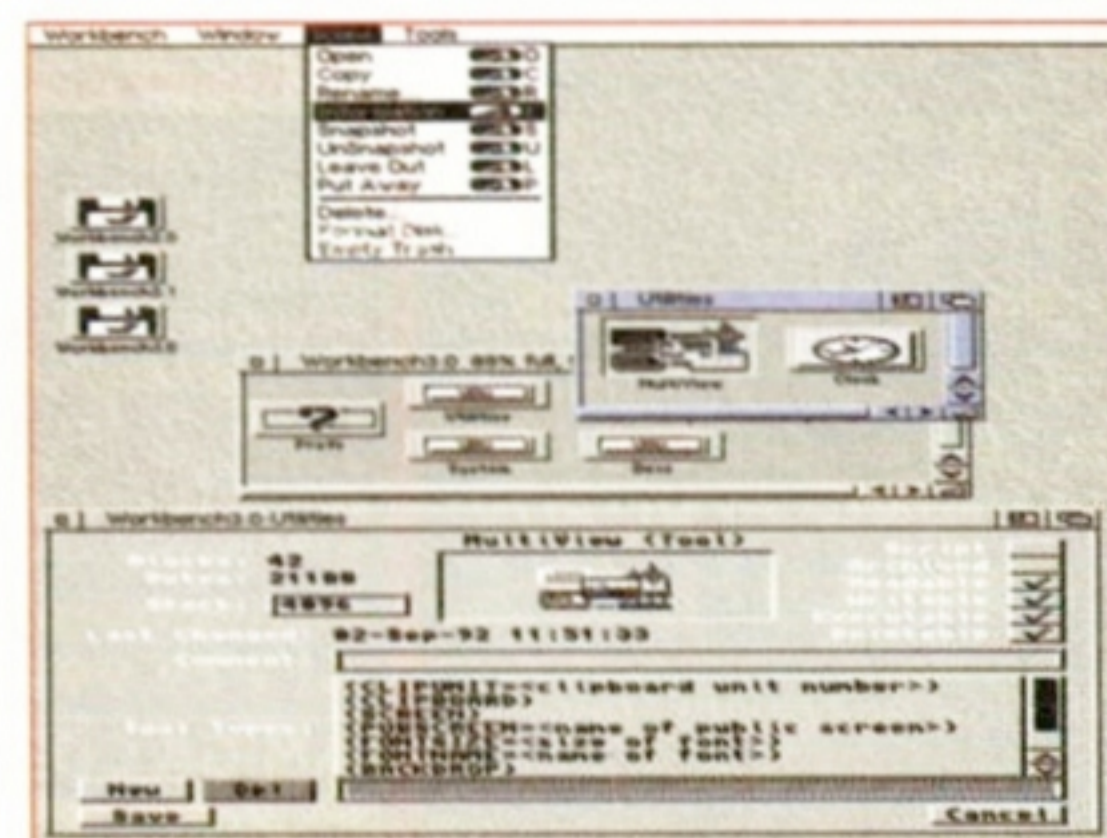
the icon file. A properly written Amiga application will always read this icon file upon start-up, and adjust its settings accordingly. You can see this in action by playing with the Clock in the **Utilities** drawer. If you look in its **Information** requester you will see that the **TOP** and **LEFT** ToolTypes are set to zero, which means the Clock will open at screen coordinates 0,0 – the top left corner of the screen. Cancel the **Information** window, run the Clock and drag it to another position on the screen. Select **Save Settings** from the Clock's **Settings** menu, and then **Quit** from the **Project** menu. Look at the Clock's **Information** requester again and you will see that the **TOP** and **LEFT** ToolTypes have been changed to whatever screen coordinates the Clock was at when you saved the settings.

Many applications will contain one or more preferences requesters that enable you to set up everything without worrying about ToolTypes. When you save those preferences, many applications these days will automatically add them as ToolTypes to the application's icon. Some will save preferences in a separate preferences file, either in the application's own drawer, or in **S:** or somewhere in **SYS:Prefs**. These preferences files are normally only editable from within the application that created them but the beauty of ToolTypes is that you can edit an application's preferences without having to run the application itself.

There is one very important ToolType that you should familiarise yourself with as quickly as possible and that is **DONOTWAIT**. All icons you move into the **WBStartup** drawer should have this ToolType. It informs Workbench not to wait until that program has finished running before opening the next program in the **WBStartup** drawer. If when booting you get a requester informing you that "Program so-and-so has not returned" and asking "Should I wait some more?", it will be because that program is in the **WBStartup** drawer and its icon does not have the ToolType **DONOTWAIT**.

Most properly written applications will have all the available ToolTypes for that application listed in the icon's **Information** requester – most of them will be bracketed like **MultiView's**. Often a bracketed ToolType will contain a list of options for that particular ToolType, between angled brackets to the right of an equals sign. For example **MultiView** has an inactive ToolType that reads

continued on page 24



**ToolTypes enable you to set the startup preferences for tools and applications before you have to actually run anything. When a ToolType is (bracketed) it is currently disabled.**



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for the A500/A500+ &

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28 Mhz, uses A500 side port so

there is no internal fitting

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Amiga's sound like you've never heard it before!.....£36.99

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Xcopy Pro inc. hardware.....	£25.99



When an Amiga application wants anything printed it passes the data to the printer driver, whose job it is to print the data on the specific type of printer he runs. Ask the Epson printer driver to print data on a Hewlett-Packard printer and he will happily give it a go, but as he doesn't know how to properly operate a Hewlett-Packard the results will always be garbage.

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(**CLIPUNIT**=<clipboard unit number>). If you simply remove the round brackets from either end, the ToolType, although made active, will be meaningless. You are expected to provide a number. Sometimes ToolTypes are not as well documented as this. The Clock, for example, has an inactive ToolType that reads (**WIDTH**=). Again, simply removing the brackets is not good enough, you are expected to provide a number, which in this case the the number of pixels wide the Clock window should be.

The part of the ToolType to the right of the equals sign is known as the parameter. So **WIDTH**= is the ToolType, and **300** might be its parameter. Whoa! Slow down, because you probably missed an important point there. The ToolType is not **WIDTH**, it is **WIDTH**=. All ToolTypes that have parameters must be followed immediately by an equals sign. The ToolType **WIDTH** =, with a space between **WIDTH** and = would not be valid. The parameter, on the other hand, may have one or more spaces between it and the equals sign. So **WIDTH=300** and **WIDTH= 300** are both valid ToolTypes and mean exactly the same thing. ToolTypes are not case sensitive, so **width=300** and **WIDTH=300** and **Width=300** are all the same thing, but for the sake of convention capitals are used mostly.

A ToolType's parameter does not have to be a number, often it will be a word or a string of text. You might be required to supply the word **Yes** or **No** as a parameter to specify whether a particular feature should be on or off when the application opens. Often the inactive ToolType might look something like (**SOMEFEATURE**=<Yes/No>), where. The "bar" character I between **Yes** and **No** is computer shorthand for the word "or". On your keyboard the bar character is on the Shifted key

above the Return key to the right of the equals sign. Sometimes the **Yes** or **No** parameter is optional. The ToolType **SOMEFEATURE** on its own may be the same as saying **SOMEFEATURE=Yes**, and (**SOMEFEATURE**) may mean the same as **SOMEFEATURE=No** but the **Yes/No** system is the standard way of doing it.

Another text parameter for a ToolType might be a path or filename. For example an application might have a **CONFIG**= ToolType that requires a parameter like **Work:WonderFile/Special.CFG**. Another might want to know where on your hard disk to look for a certain type of file, like ARexx scripts particular to that application for example, and might have a **REXXPATH**= ToolType that requires a parameter like **Work:WonderFile/Rexx/**.

Note the slash on the end of that string of text. This is the proper way of specifying a path; strictly speaking, without the final slash that string of text would be specifying a file named **Rexx** in the **Work:WonderFile** directory. In practice, Workbench and most applications are intelligent enough to know what you mean if you leave off the final slash from a path.

Quite a few modern applications will have **FONTNAME**= and **FONTSIZE**= ToolTypes, or the equivalent. Alas, although the parameter for **FONTSIZE**= is always going to be a number, no standard is being practised among developers for the **FONTNAME**= ToolType. Some might require you to provide, for example **times.font** as a parameter, others will accept just **times**. If there is no documentation and one style of parameter doesn't work, try the other. Keep in mind that not all applications will have a **FONTNAME**= ToolType. If it has one, or an equivalent, it will already be in the application's icon **Information** requester.

## GOING DOWN THE PUB

The last ToolType I want to discuss is the **PUBSCREEN**= one. This ToolType is shorthand for an Amiga concept known as a "public screen" — a screen that many applications can share. Just as you can have many applications running in their own windows on the Workbench screen, so any application that has a **PUBSCREEN**= ToolType is able to open in a window on any screen that has (by the application that opened the screen) been declared as open to the public — the "public" being the other applications.

Workbench is a public screen. In the old days Workbench was the only public screen but nowadays any application can declare its screen as open to the public. The name of a public screen is not necessarily the name you see in the screen's title bar. For example, in the Workbench title bar you see either "Workbench Screen" when the screen is inactive, or "Amiga Workbench" and some memory information when it is active. Neither of these are the public screen name. The public screen name for Workbench is, funnily enough, just "Workbench".

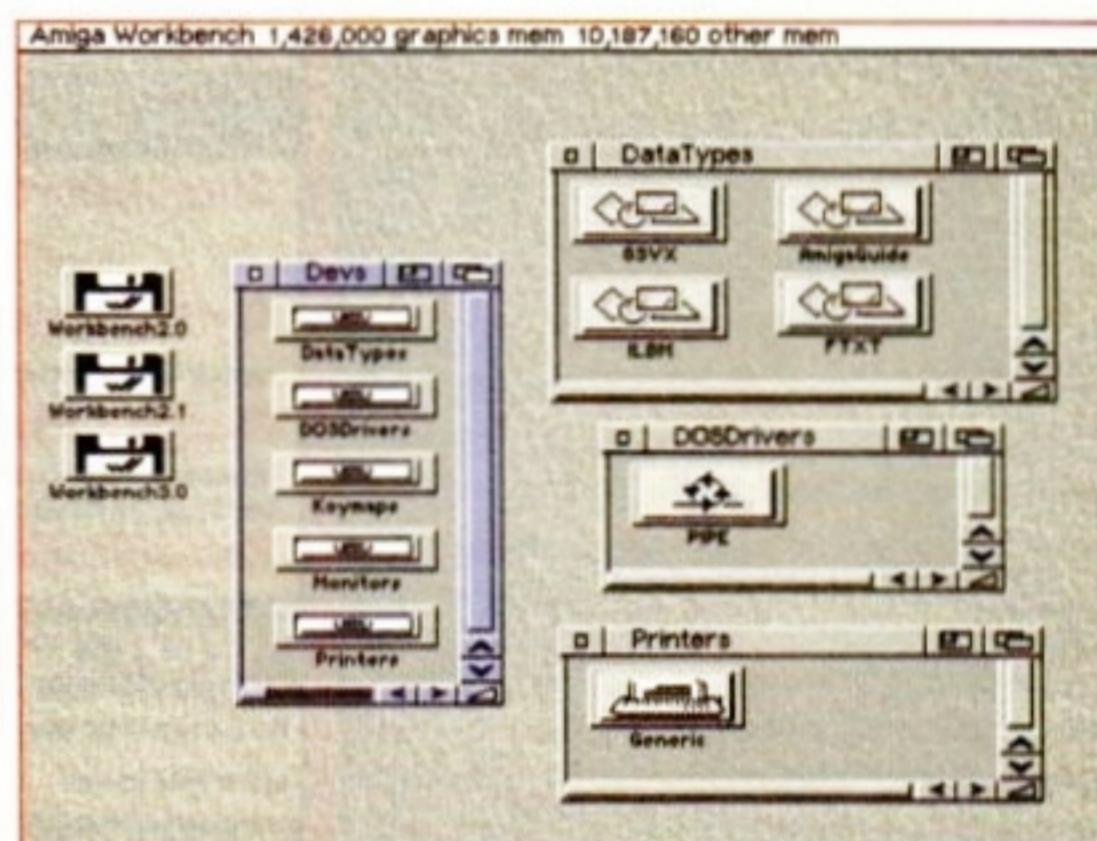
A particular application's public screen name, if it opens a public screen, will be documented in that application's manual, and this will be the name you must supply as a parameter to the **PUBSCREEN**= ToolType. The public screen name must not be enclosed in quotes, even if the name of the public screen is more than one word. Always type the name of the public screen just as it is — upper and lower case exactly as specified in the

application's manual — not enclosed in quotes.

I love public screens. Right now I'm tapping these words into the *Protext* word processor and I can keep an eye on the time because I've got the Workbench Clock utility running in a window on the same screen as *Protext* by adding a **PUBSCREEN=Amor** ToolType to the Clock's icon. Now I could have achieved the same effect by running *Protext* and the Clock on the Workbench screen but my Workbench is a pretty-but-slow 16-colour one and I'd rather have *Protext* running on a faster 4-colour screen. Public screen is just one more way that Amiga owners can customise their working environments to suit themselves.

Public screens are probably something you won't get into until you've acquired one or two programs which open public screens and a few more little utilities that support the **PUBSCREEN**= ToolType. The shareware scene is the best place to go hunting for inexpensive toys. Get hold of *PSM* (Public Screen Manager) on Fish Disk 911 if you want to fully exploit public screens — any large PD library will stock it.

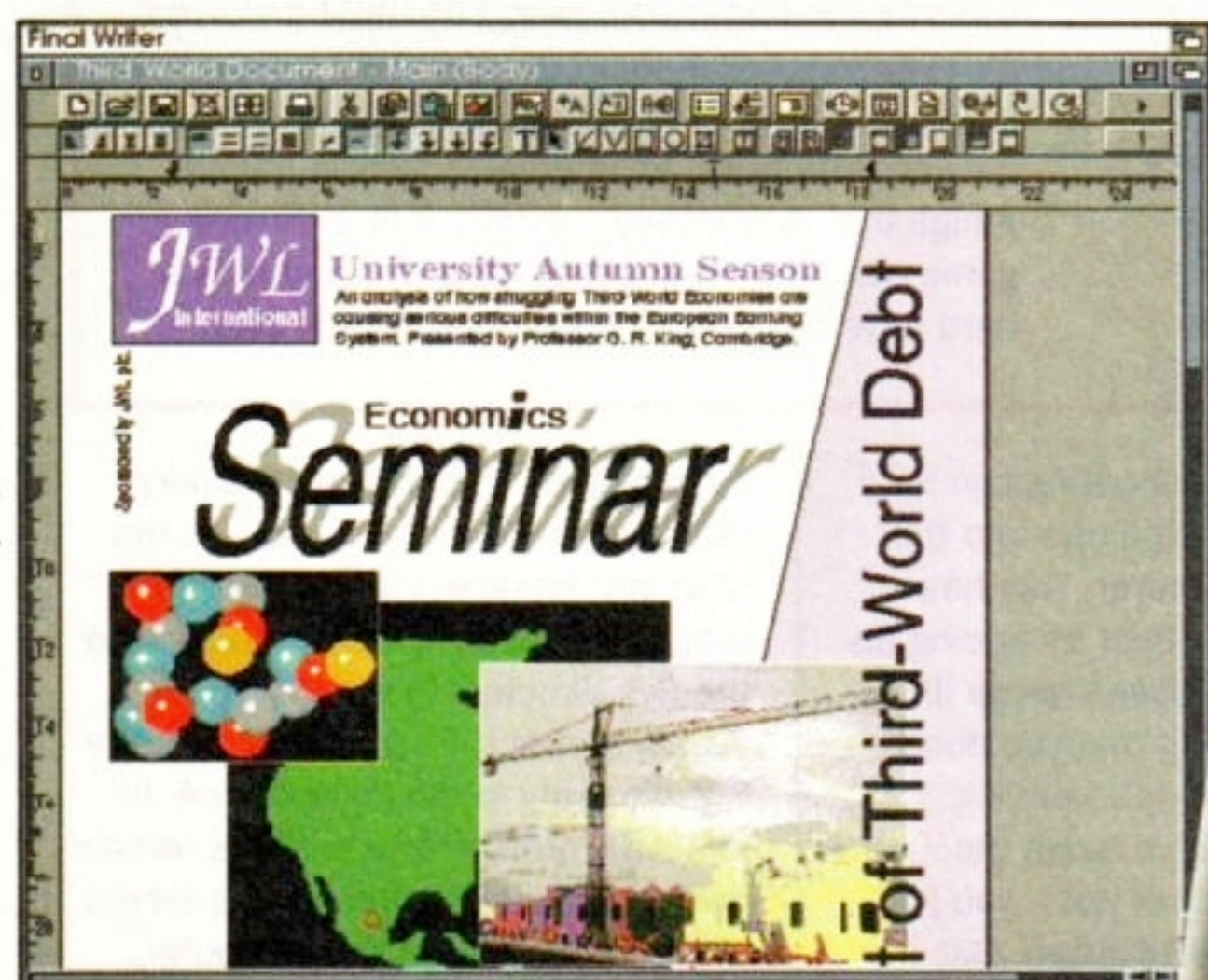
continued on page 26



Files in the Devs drawer enable the Amiga to communicate properly with other devices, including the screen display and the keyboard. The Workbench 3 Devs drawer also contains support for DataTypes.

# You can't use Software this Powerful, and produce Documents this Good...

Actual screen display

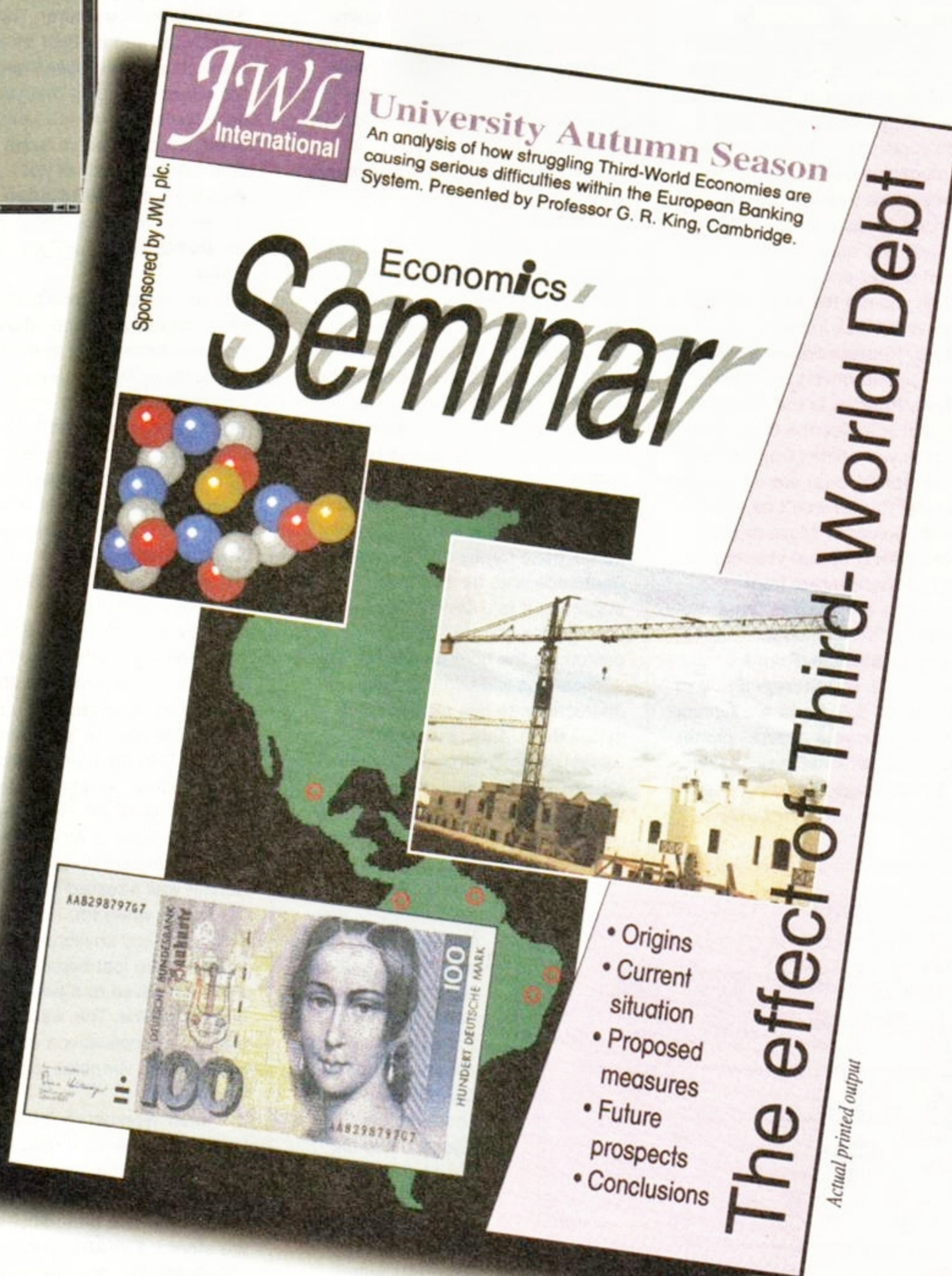


*Unless, you buy an expensive PC or Macintosh™,  
a high priced Colour PostScript™ Laser Printer,  
and a complex, costly Desk Top Publishing Package...*

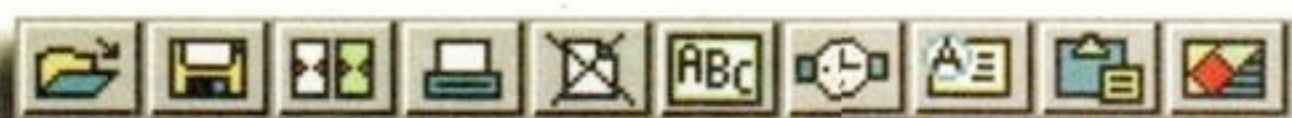
If you're looking for a quality Word Processor/Publisher that performs as well as this, you may well start by searching through PC and Apple™ Macintosh™ software catalogues.

Even then though, you probably won't find a program that will combine the very best in Word Processing *and...* easy to use integrated DTP type facilities.

You certainly can't find software for your Amiga that's capable of all this...



## ...or Can You?



# SYSTEM 4 – THE DREAM

System 3.1 (the combination of Kickstart 3.1 on ROM and Workbench 3.1 on disk) is just around the corner, and although there will be a few major changes from Workbench 3.0, it'll be essentially improvements and more of the same. Upgrade kits will be made available, and there appears to be no reason (the exact details are scanty) why any Amiga, with perhaps the exception of the old 256K A1000 and 512K A500, cannot be upgraded to System 3.1. Don't expect it to turn your non-AGA machine into a 256-colour Amiga though – that's something entirely different that

requires a change of motherboard and the addition of several chips other than Kickstart. It will mean, however, that most of the Amiga community will be able to fit and use the same version of the operating system, provided they are willing to stump up the cost of upgrading. When 3.1 is released you can expect almost all Amiga developers (and a lot of them already have) to completely drop support for Workbench 1.3, and maybe even Workbench 2.04 and 2.05. In this event it will be a case of upgrade or suffer.

The big, big operating system changes are

being saved for System 4, expected some time later this year along with the so-called new generation Amiga. Don't hold me to that, it could just as easily be 18-24 months away, but the rumour is that System 4 should be launched towards the end of this year. The most important thing I can tell you about System 4 for now is that it will not run from floppy disk. So, reading between the lines, any future System 4 based Amiga that is released – even if it is a low-end game machine – will either have to come with a hard drive or CD-ROM drive fitted as standard.

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## STUMBLING BLOCKS

OK, we're getting near to the end of this article and, although there is a stack of more fascinating stuff to discover on the Workbench disk, I want to concentrate now on some basic stumbling blocks that often have beginners threatening to throw their prized Amigas out the window. Firstly (and very quickly, I promise) a bit about printer drivers.

When you run the **Prefs/Printer** program it will look in the **SYS:Devs/Printers** drawer for the available printer drivers. Remember, **SYS:Devs/Printers** is the **Printers** drawer that is inside the **Devs** drawer on the disk you booted from (**SYS:**). If your printer driver(s) are on another disk, **Prefs/Printer** won't be able to find them. Solution? Move or copy the printer driver(s) that you require into **SYS:Devs/Printers** from wherever they are – **Extras:Devs/Printers** for Workbench 2.04 and 2.05, **Extras:Storage/Printers** for Workbench 2.1 and **Storage:Printers** for Workbench 3.0. If you are running a hard disk then your "spare" printer drivers will be (at least they should be) in **SYS:Storage/Printers**. Copy them from there into **SYS:Devs/Printers**.

(If anyone from Commodore's

engineering department is reading this, we could do with a foolproof "Install New Printer Driver" utility. Dragging icons from a drawer inside a drawer to another drawer inside another drawer is not as easy a concept for newcomers to grasp as you appear to think it is.)

And so to the **Startup-Sequence**. This is a text file in the **SYS:S** directory that contains the instructions for booting the Amiga. Only the **Startup-Sequence** supplied on your Workbench disk will do the job completely and properly. *Never, ever, alter this file. Not ever.* Altered or non-standard **Startup-Sequences** are often the root cause of puzzling error requesters and things not working properly. You have been warned.

Moving swiftly along, we come to the **User-Startup**. This is a list of instructions run by the **Startup-Sequence** and, as its name suggests, it is a file created by the user (that's still you) in order to customise the boot procedure. Some applications will add lines of instructions to this file when you install them. This usually applies to **Assign** commands and sometimes others. You may add lines of instructions to this file yourself. For example, you might pick up some PD or shareware utilities that you would

like to run automatically every time you boot. A classic example is a virus checker. In this case, you would add the necessary commands to the **User-Startup** file. There isn't actually a **User-Startup** file provided in **SYS:S**, you will have to create one yourself using **Ed** or any other text editor.

But – and this is a big but – almost all utilities that you want to run

automatically when booting can be run by dragging their icons into the **SYS:WBStartup** drawer. This has exactly the same effect as adding an instruction to the **User-Startup** file, the difference being that you don't have to sweat buckets worrying about whether you've typed the command correctly or not – you just drop the icon in **WBStartup**. But remember to check that you have set the **DONOTWAIT** ToolType (see above).

You will occasionally pick up a PD or shareware utility whose documentation says that, in order for the utility to work, you must add one line of instructions or more to the **Startup-Sequence** itself. I'd rather poke hot needles in my eyes than touch my **Startup-Sequence**. You do what you like. For those of you who have fallen foul of the non-standard **Startup-Sequence**, look out for a handy pack of hot needles on the cover next month.

Now a bit about the **ENVARC:** and **ENV:** logical devices. The "env" in those device names is short for "environment variables", a horrible piece of jargon for "preferences settings". In the days before Workbench 2.04, environment variables were not used much. When they were used, they were saved to the **ENV: logical** device, which by default was situated in the RAM disk. Obviously, when you switched off the computer, any environment variables in **ENV:** were lost because they had not been saved to a permanent storage device. This was the main reason no applications used environment variables to save preferences.

Enter Workbench 2.04 and the invention of the **ENVARC:** device, which is short for "environment variables archive" or, in other words, the place where preferences settings are stored. **ENVARC:** is the **SYS:Prefs/Env-Archive** drawer. When you boot the Amiga the entire contents of this drawer are copied to the **ENV:** logical device in the RAM disk so that preferences settings can

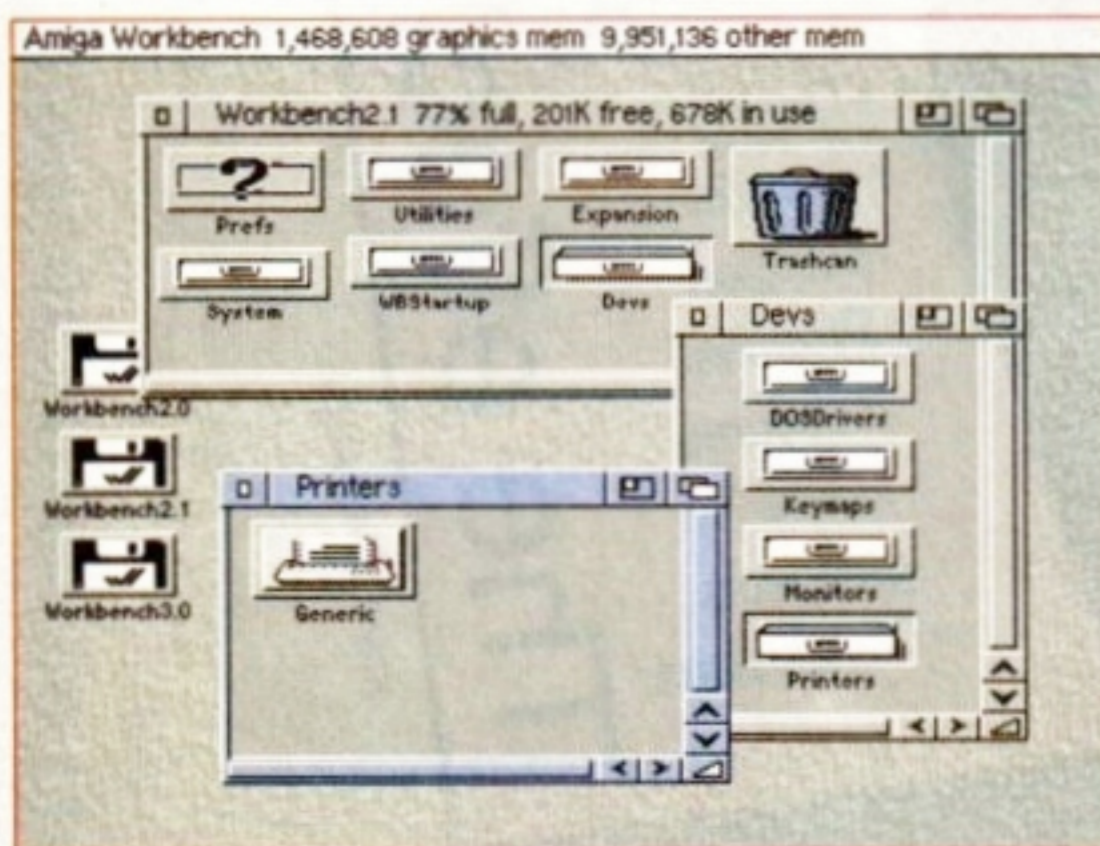
be accessed quickly from memory rather than slowly from disk. All the standard Workbench preferences programs will save their settings into the Sys directory in the **ENVARC:** device and at the same time into the Sys directory in the **ENV:** device. In this way, preferences settings remain quickly accessible and are preserved when you switch off the computer.

These days more and more applications are quite sensibly storing their preferences settings in **ENVARC:**, which is yet one more reason why it is imperative that your Amiga is booted with a proper boot disk and proper **Startup-Sequence**. If you ever get a requester informing you that **ENVARC:** or **ENV:** cannot be found, it will be either because the boot disk does not contain a **Prefs/Env-Archive** directory or because the **ENV:** device has not been set-up properly by the **Startup-Sequence**.

And that's it. Sadly we've come to the end. There's only so much we can cover in one magazine article, but by now you should be able to see that the Amiga is more than just a lump of plastic and a few floppy disks. It is a large collection of files that knit seamlessly together to provide a complete operating system. Understanding how and why these files knit together is the key to understanding the Amiga. and understanding the Amiga is the key to using it creatively. Many people say they can't be bothered to learn, muttering excuses like "I'm not a technical person" or "I'm too old to understand". That's a load of cobblers.

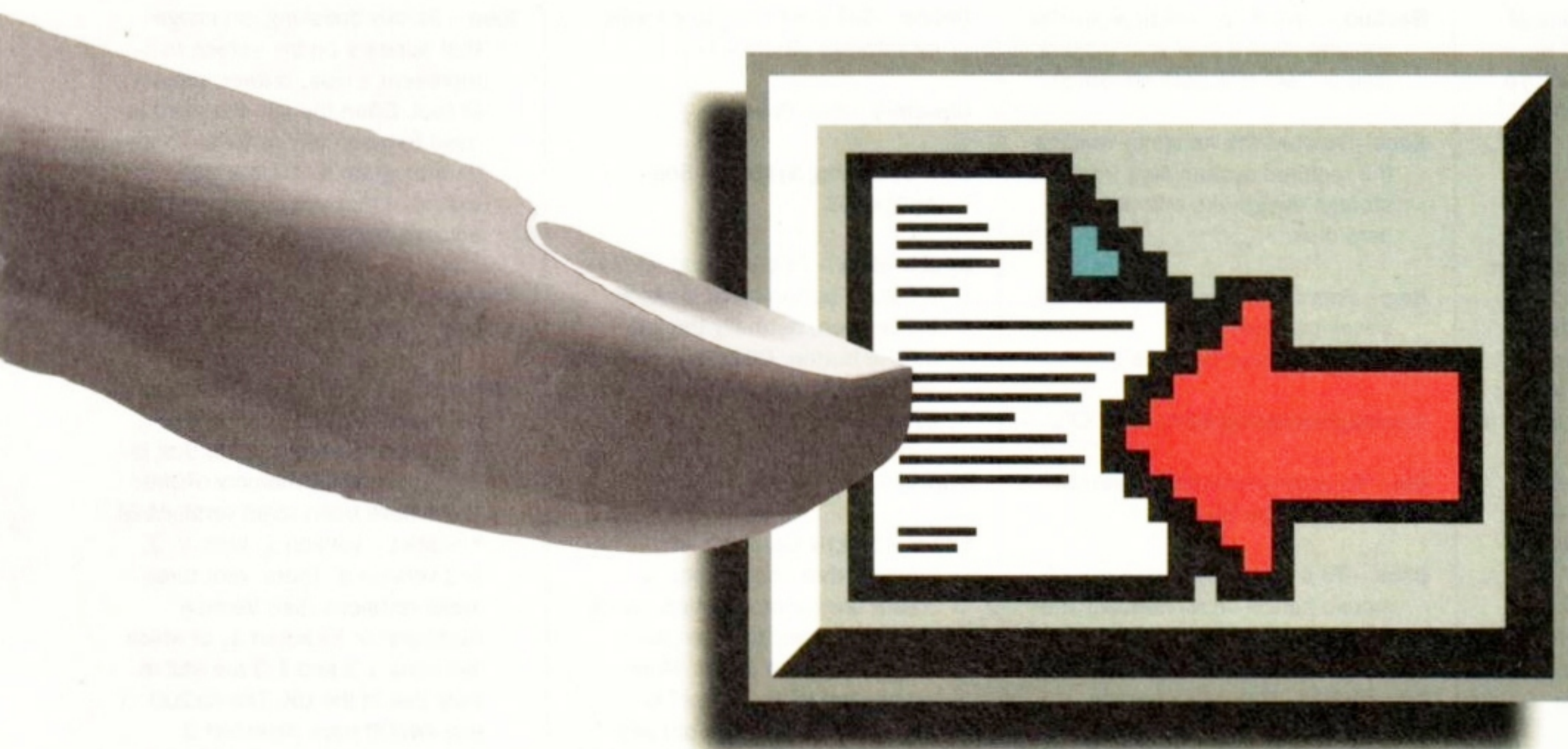
Provided you are prepared to read and read then read some more – and put in the necessary keyboard time – becoming an Amiga expert is no more difficult than learning anything else. Too many Amiga users falter at the first obstacle and are unwilling to cut a swathe through the jungle of jargon. But, if you get through that, the rest is a walk in the park.

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Printer drivers always go in the **SYS:Devs/Printers** drawer – **SYS:** being your "system disk" (the disk you boot from), which should be, but might not necessarily be, the Workbench disk.

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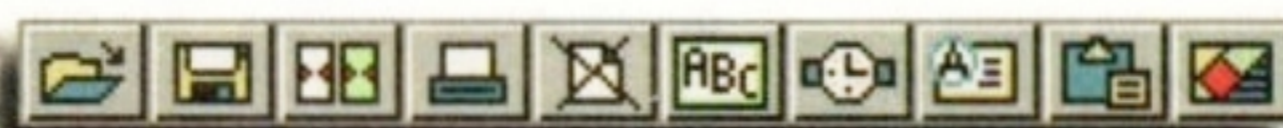
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# GETTING TO TERMS

Here's where we translate that computing double-dutch into English

**O**ne of the definitions of the word "jargon" is "meaningless talk". To the beginner that's exactly what the peculiar words and phrases connected to the subject of computing appear to be. But they all mean something and all you have to do is find out what.

Oh come on, don't whinge! It's new, that's all. As you read and speak the jargon more often, so you will become familiar with it. It takes a little time and we all learn at different speeds, so don't be too hard on yourself. Just keep bashing away and things will start to fall into place.

To start you on the road to success we present a Jargon Busting Special, two pages of explanations of important computer and Amiga related words and phrases.

**BSVX** — An acronym for, er, um... (embarrassed cough)... Well, whatever it stands for, it's the the standard Amiga file format for sounds, more properly written as **IFF-BSVX**.

**Acronym** — A word formed from the initial letters of a group of words. For example, ROM stands for Read Only Memory.

**Amiga** — To those in the know it is a computer, to everyone else it is a wristwatch. In case there are any Scottish TV presenters reading, the stress is on the second syllable, not the first.

**AmigaDOS** — The disk operating system (DOS) used by the Amiga that provides the machine's basic functions. Also widely used to mean what you are using when you type commands into a Shell window.

**Application** — Any computer program, but normally used to mean a large one. See Utility.

**Argument** — See Parameter.

**ASCII** — An acronym for American Standard Code for Information Interchange. Text editors normally save their text in ASCII format, most word processors will save in their own format but have ASCII as an option as well.

**Backup** — What you will have wished you had done if ever your system disk or hard disk gets corrupted.

**Boot** — To start the Amiga by reading the required system files from a storage device like a floppy or hard disk.

**Bug** — Errors in hardware or software. Developers call them 'undocumented features'.

**Central Processing Unit** — See CPU.

**CLI** — An acronym for command line interface. See Shell.

**Click** — To press and release a mouse button once, normally the left mouse button.

**Commodore** — The company the Amiga press loves to lay into for "not promoting the serious side of the Amiga" enough, despite the fact that many professional film and video producers use it to create special effects and that many professional musicians use it to drive their MIDI instruments, and that many professional designers use it for desktop publishing, and that many businesses use it for presentations and point-of-information systems, and that many schools and colleges use it to teach with, and that ... (Okay, we get the point — Ed.)

**CPU** — An acronym for central processing unit, the chip that is the brains of the computer. The CPU in your Amiga is one of the Motorola MC68000 series. The A1000, A500, A500 Plus, A600, A1500 and A2000 have a 68000 CPU fitted. The A1200 has a faster 68020 CPU. The A3000 and A4000/030 have even faster 68030 CPUs, the A4000/040 has a faster still 68040 CPU. The fastest (and last in the series) Motorola CPU is the 68060, which may or may not be used in future Amigas.

**Data** — Any collection of information.

**Debug** — Something given away free with desoftware.

**Default** — Something else given away free with desoftware.

**Delete** — The best thing to do with desoftware (Ahem — Ed).

**Directory** — See Drawer.

**Disk Operating System** — See AmigaDOS.

**Double-click** — To press and release a mouse button twice in quick succession, normally the left mouse button. Disks and drawers are opened, and programs are run by double-clicking icons.

**Drawer** — See Directory.

**Editor** — Strictly speaking, any program that enables you to create and/or modify files, which means that any program that saves files is an editor. More usually the term, "editor" is preceded by another word like "text" or "preferences", denoting the type of file the program edits.

**Floppy Disk** — Those thin, square things you shove in the similarly shaped, but slightly larger slot in the side or in the front of your Amiga. It's the disk inside the plastic case that is floppy, not the case itself, which is hard. Do not store your floppy disks close to anything that emits heat, a magnetic field or ultra-violet rays. Do not use the metal shutter as a makeshift catapult. Do not play silly buggers by twizzling the point of a pen around in the hole in the hub on the back of the disk. Do not pass Go. Do not collect £200.

**Font** — A particular design of a set of letters. The Amiga has one built-in font ("topaz"), any others must be loaded from disk. Fonts come in various sizes, defined in "points". The bigger the point-number, the taller and wider the characters — and the more memory the font will consume when loaded.

**Graphical User Interface** — See GUI.

**GUI** — An acronym for graphical user interface, which essentially means the menus, requesters and toolbars that a program or operating system uses to interact with the user (that's you). In speech GUI is often pronounced 'gooey', as in what Commodore Press Release are.

**Icon** — Strictly speaking, an image that appears on the screen to represent a disk, drawer, project or tool. Often though, the word is used to mean any pictorial image (in a program's "toolbar" for example) that you click to make something happen.

**K** — One kilobyte, which is 1,024 bytes. Also written as Kb or KB.

**Kickstart** — A chip inside the Amiga which contains the part of the Amiga's operating system that is held in read-only memory (ROM). There have been three versions of Kickstart — version 1, version 2, and version 3. There were three major revisions (see Version Numbers) of Kickstart 1, of which revisions 1.2 and 1.3 are still in wide use in the UK. The A1200 and A4000 have Kickstart 3 fitted, the A600 has Kickstart 2 fitted.

The various versions of Workbench are designed to be used with the similarly numbered versions of Kickstart, although they are mostly "backwards compatible". So while it is not at all sensible to run Workbench 2 with Kickstart 1, or Workbench 3 with Kickstart 2, it would be perfectly feasible to run Workbench 1.3 or 1.32 with Kickstart 2, or Workbench 2.04, 2.05, or 2.1 with Kickstart 3. If your Amiga still has the Kickstart 1.2 or 1.3 ROM in it you should consider buying the Release 2.1 Enhancer Kit in order to upgrade to a later (and much better) version of the operating system.

Later this year a Release 3.1 Enhancer Kit should be made available, although it is unclear at this time which Amigas will be able to be upgraded with this.

**Kilobyte** — See K.

**Hard Disk** — A piece of hardware that can be attached to your Amiga, on which it is possible to store the equivalent of the contents of many floppy disks. Using an Amiga without a hard drive is like trying to ride a bike up a never-ending steep hill.

**Hard Drive** — Exactly the same thing as a hard disk.

# WITH THAT JARGON

**Hardware** – The physical equipment used with computers, including such things as memory, disk drives and the central processing unit (CPU).

**IFF** – An acronym for Interchange File Format, the standard file format for many types of Amiga data, including sounds, graphics and text. The term, IFF, is often carelessly used in books and magazine articles in place of IFF-ILBM, the standard file format for Amiga graphics. Strictly speaking, IFF is just the file format, ILBM is the actual type of data, the graphic in other words.

**ILBM** – An acronym for InterLeaved BitMap, the standard Amiga file format for graphics, more properly written as IFF-ILBM.

**Megabyte** – See Mb.

**Mb** – One megabyte, which is always 1,024 kilobytes when used in reference to memory, but can also be 1,000 kilobytes when you are trying to sell a hard disk and want to make it sound like it is bigger than it really is. Allegedly.

**Morphing** – This word is derived from metamorphosis and describes an effect in which one image "morphs" into another over an animated sequence of frames. It's currently in vogue with commercials and science fiction film producers.

**Open** – A generic term which means "to make something available for use". You can open a drawer to get at the icons inside that drawer, you can also open a program to make use of that program, and from within a program you can open requesters.

**Operating System** – The Amiga's operating system (often shortened to "system" or "OS") is the complete combination of the software on the Kickstart chip inside the computer, plus the software that is provided on the Workbench, Extras, Fonts, Locale and Storage disks.

**OS** – An acronym for operating system.

**Parameter** – An additional piece of information that determines the exact action of a command or option. A filename would be a parameter for a load or save option, for example. Also known as an 'argument' because that's usually what ensues when you supply a wrong parameter.

**Partition** – A section of a hard drive that the system treats as a separate drive.

**Program** – Another word for computer software. Stick-in-the-mud schoolteachers please note that this is not the same as a "programme" which is something you watch on television.

**Project** – A file in which information created by a program is stored.

**Revision Numbers** – See Version Numbers.

**Shell** – The command line interface (CLI) that is used to enter typed commands, much loved by aged computer users who can't stand change, and techies who want to appear cleverer than the rest of us.

**Sleepy Pointer** – The Amiga used to display a pointer that was a "dreams" cloud with "Zzzz" in it when it was busy, indicating that you should wait until it "reawakens". This was called the sleepy pointer, and although nowadays the Amiga puts up a less romantic stopwatch as a busy pointer, you will still come across the busy pointer referred to as the sleepy pointer by long-time Amiga users who can't break the habit.

**Software** – Programs that are used by computers.

**Storage Medium** – A hardware or software medium on which data is stored. This includes permanent media like floppy disks and hard disks, plus non-permanent or "volatile" media like memory and Post-It notes.

**String** – A piece of text that is normally treated as a single unit. You type strings into requesters that enable you to edit things like

filenames (like the **Icons/Rename** menu item). The typical maximum length for strings is 255 characters, including spaces, enabling you to type a path before a filename.

**Title Bar** – You see that bar at the top of the screen which displays the title of the screen...? Windows have title bars too. Title bars can generally be dragged up and down and to the left and right of the screen.

**Tool** – Any computer program, not just those in the 'Tools' drawer.

**Version Numbers** – The version number of a piece of software or hardware is normally written as a decimal number. The number to the left of the decimal point will be the version number; the number to the right of the decimal point will be the particular revision of that version. So version 4.31, for example, would be the 31st revision of version 4 and is best read as "version four point thirty-one".

Commodore's "real" version numbers for Kickstart and Workbench work like this, as discovered by selecting the About or Version item from the Workbench menu. A version number of 39.106 would be a later version than (for example) 39.21 because the revision number of the first (106) is higher than the revision number of the second (21). Whenever you are referring to versions of Kickstart or Workbench it is always better to quote these numbers as well as just 'Kickstart 2' or 'Workbench 3'.

Alas, not all developers adhere to the above convention and it can be particularly confusing when a revision jumps from, for example, version 4.49 to version 4.5. In this case, version 4.5 would actually be version 4.50, one more than 4.49. Developers will often leave off the zero when they hit "round" revision numbers.

In books and magazine articles you will sometimes see version numbers written as version 1.0x or 2.x. The "x" in these version numbers stands for any number. So 1.0x means any

revision of version 1 that starts with '0' – 1.01, 1.02 and so on. Version 2.x would mean any revision at all of version 2 – 2.01, 2.1, 2.46, 2.7, 2.99, even 2.999 if that's the revision numbering system the developers have adopted.

With particular reference to the Amiga's operating system, the term "Workbench 2.0x" will mean versions 2.04 or 2.05, but not 2.0 (the first "developer" version) or 2.1 (which would be better labelled 2.10). The term "Workbench 2" or "Workbench 2.x", on the other hand, will mean any revision of version 2 of Workbench, although strictly speaking this will not include the first 2.0 developer version because it was full of bugs and doesn't work properly.

Various words are used to mean the concept of "and any version thereafter", the three most common being "better", "later" and "greater". So the term "Workbench 2.04 or better" means versions 2.04, 2.05, 2.1, 3.0, plus any future versions of course. This "x" convention applies to all hardware and software, not just Workbench.

**Volume** – A floppy disk, a hard disk partition, or the RAM disk.

**Volume Name** – The name of the volume (see above), as opposed to its device name. For example, the RAM disk has a volume name of "RAM Disk" and a device name of **RAM:**. If you rename "Ram Disk" as "CorBlimey", its volume name has changed but its device name is still **RAM:**.

**Utility** – Normally used to mean a small program that does just one or a few simple jobs but it can refer to any computer program, not just those in the Utilities drawer. See Tool.

**Wetware** – Stuff between your ears.

**Workbench** – Strictly speaking, Workbench is the Amiga's graphical user interface (GUI), but it is also widely used to mean the part of the Amiga's operating system which is loaded from disk as opposed to the part that is held on the Kickstart ROM.

# Mass man

## Gary Whiteley zooms in on two more batch-processing 'front-ends' for ASDG's Art Department Professional and Morph Plus programs.

If you've ever tried using ASDG's Art Department Professional or Morph Plus for multiple image processing then you'll know how tricky it can be to get your needs met simply and easily. You could use **FRED** (although most people I know find it too frustrating) or you could write a few **ARexx** scripts, but neither solution offers the ease of being able to push a few buttons and gain instant gratification.

With such needs in mind there has recently been a slew of programs designed to take the strain out of using *ADPro* and *Morph Plus*. First there was *ProCONTROL* (reviewed in AS31), then along came *MultiFrame-ADPro* and *ADPTools Professional* – our two subjects under the microscope today.

### SOME PHILOSOPHY

Video graphics producers and animators often need to process sequences of images, unlike DTP users who usually only manipulate one image at a time. Such multiple processing should surely be straightforward – but looking more closely you'll quickly find it fraught with difficulties.

The first problem concerns file formats. Because a sequence for processing may well include images in several different formats: JPEG, IFF24, YUVN and ANIM, to take four common examples. However, for a completed project these usually need to be in the same format – let's say 24-bit IFF.

If there are only a few files to convert then it's not too much hassle to do them all individually. But what if you have 100 or more? No one in their right mind would want to sit there and convert them image by image! And what happens when every image has to be scaled to a particular size and then embossed? Or a sequence of images has to be

made into a single seamless, perspective, fly-past? These are just a few examples of the problems you will find associated with multiple image processing.

The answer is Batch Processing – telling *ADPro* to take one image after another and convert them to the chosen format, size and so on. This is easier said than done, unless you happen to be an **ARexx** genius.



And even if you are, you'll still have to write several different scripts to handle all your basic processing needs. This is where programs such as *MultiFrame*, *ADPTools* and *ProCONTROL* come into their own.

### POINT & GO

Each program offers a point-and-click environment through which a series of instructions can be passed to *ADPro* to cause it to process automatically a defined sequence of images. How these objectives are ultimately achieved differs from program to program but by and large they all get the job done and, in many instances, a damn sight quicker and easier than writing an **ARexx** script for *ADPro* ever could.

Individual features vary but all the programs have one feature in common – a graphic interface to harness the raw power of *ADPro*. First by selecting a series of images, then by defining the process/es

which will be enacted upon them – whether it be scaling, colour balancing, the application of effects, format conversions or any of *Morph Plus*' complex functions such as perspective, ripple, sphere and collapse (though morphing itself cannot be controlled in this way). You also get to control how the new images will be saved.

Anything that *ADPro* and *Morph Plus* can do (except for morphing functions) can be controlled by these programs, and some functions can even be extended.

Once it has been started, an entire batch process should run automatically if properly set up. Images will be loaded, processed and saved while you do something more interesting. Believe me, almost anything is more interesting than batch processing images!

### BIG AMIGAS NEEDED

So what's the catch? Well it certainly

with a 68030 or 68040 processor built-in. Lastly, although a graphics card isn't obligatory one will certainly help when it comes to checking the quality of your work if you require professional-looking results. Of course you'll also need *Art Department Professional* or *Morph Plus*, both of which need an Amiga with at least AmigaDOS 2.04.

All this adds up to a pretty big wish-list for the vast majority of Amiga owners. However, it is fairly standard fare for serious graphics and animation producers. Let's face it, these tools are for professionals, so there's no point in having wimpy-spec' Amigas holding them back!

Now let's get on with the show...

### ADPTools Professional

Of the three programs reviewed here (including *ProCONTROL*) *ADPTools* caused me the most grief, mainly because of its pretty (useless) manual. That's not to say it doesn't do the job but it can be a real pain to figure out something as simple as how to get properly started, never mind how to use *ADPTools* for the purpose for which it was intended.

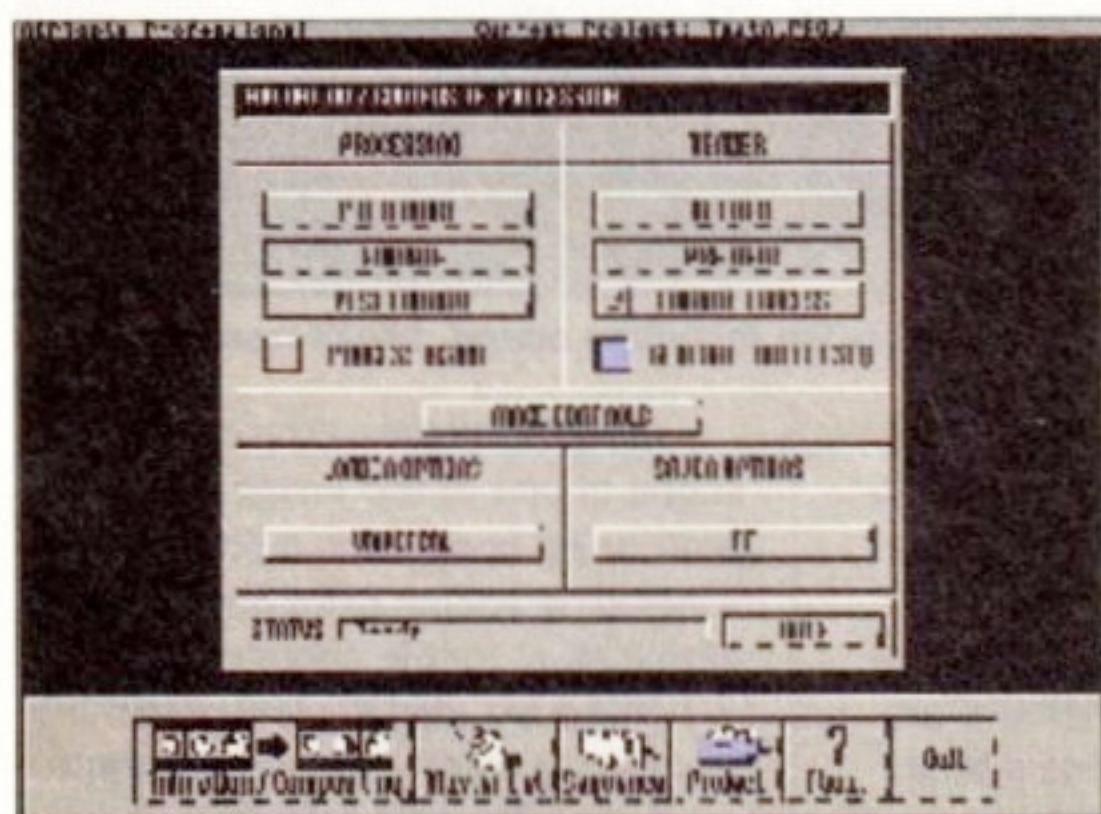
After a few hours of frustrating exploration, hangs and forced restarts, the ice began to melt. If I hadn't been reviewing the product I would certainly have become quickly annoyed by the unnecessary learning curve I was forced to endure before I finally got to grips with this software.

Authored with *CanDO*, *ADPTools* opens its own custom window and is



Here's a simple example of what batch processing can achieve – in this case using *Morph Plus*' Sphere...

# ipulations



**ADPTools Professional – authored with CanDO – is built to make your batch processing less arduous.**

completely mouse and keyboard driven, with not a pull-down menu in sight! The opening moves are straightforward enough, once you've been over them a hundred times – which you will, because the manual is more like a short novel than an instructional guide. Here in their glory are the basics of batch processing with ADPTools:

- Define Preferences: these include Load and Save directories and ADPro memory usage.

These actions are only necessary the first time round, although changes can be made whenever required.

- Create A Project (or load an old one). This includes creating one or more sequences that hold lists of the image(s) to be processed.

Project (while you do something else)

- View the results....

The trouble is, it ain't that easy. Because of the similarity between several of ADPTools' requesters, and due to the lack of instructions simple enough for me to follow, I kept coming unstuck. After a few thorough readings of the manual I was at last experimenting happily, though not always successfully. On occasion I



**...you can sit back and watch as your images are manipulated without you having to waste your time.**

- Create a Master List from existing sequences and images. Define how many frames each image will spawn.

- Define the processes that the Master List contents will have thrust upon them and the way in which the results will be saved.

- Render the

files to 8-bit ones and then converting them to Line Art just wouldn't work with ADPTools, whatever I tried. However, the same actions worked first time with ProCONTROL. Why? I guess it must be down to ADPTools, because the copy of ADPro I used was the same in all tests.

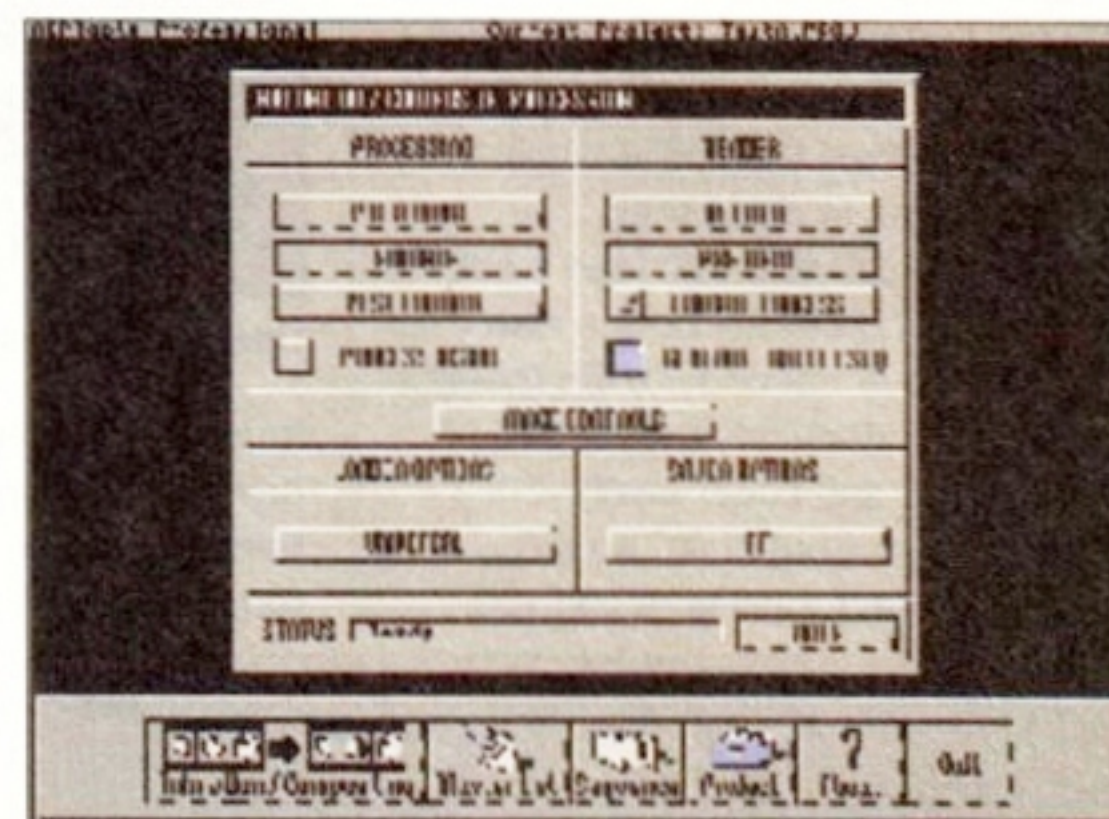
Mind you, ADPTools also has some good points.

One of the best is being able to control all of ADPro's functions, not just on a one-off basis but also extended over a range of frames. A simple example would be the application of the Blur operator. Set the blur levels for the first and last frames (and any between if you wish because this is a keyframe-based system). When the sequence is processed, the relevant blur levels will be extrapolated and applied to each image in the chosen range.

You can imagine how applying such a system to perspective operations could cause interesting ADO effects to become possible.

The downside is that ADPTools seems to make everything rather harder than it should for the sake of a little bit of additional flexibility. It also does little that ProCONTROL can't do, yet it costs twice as much. And, like MultiFrame, it really makes a meal of compositing operations. It requires an additional Alpha channel sequence to be generated for successful compositing of multiple frame sequences.

In plain English this means that you need to generate foreground and background images as well as a third set of greyscale images that are used to control the mixing levels between the foreground and background sequences. On the other hand,



**Yet another process is called Spline control. This extends to how an effect can be applied over time.**

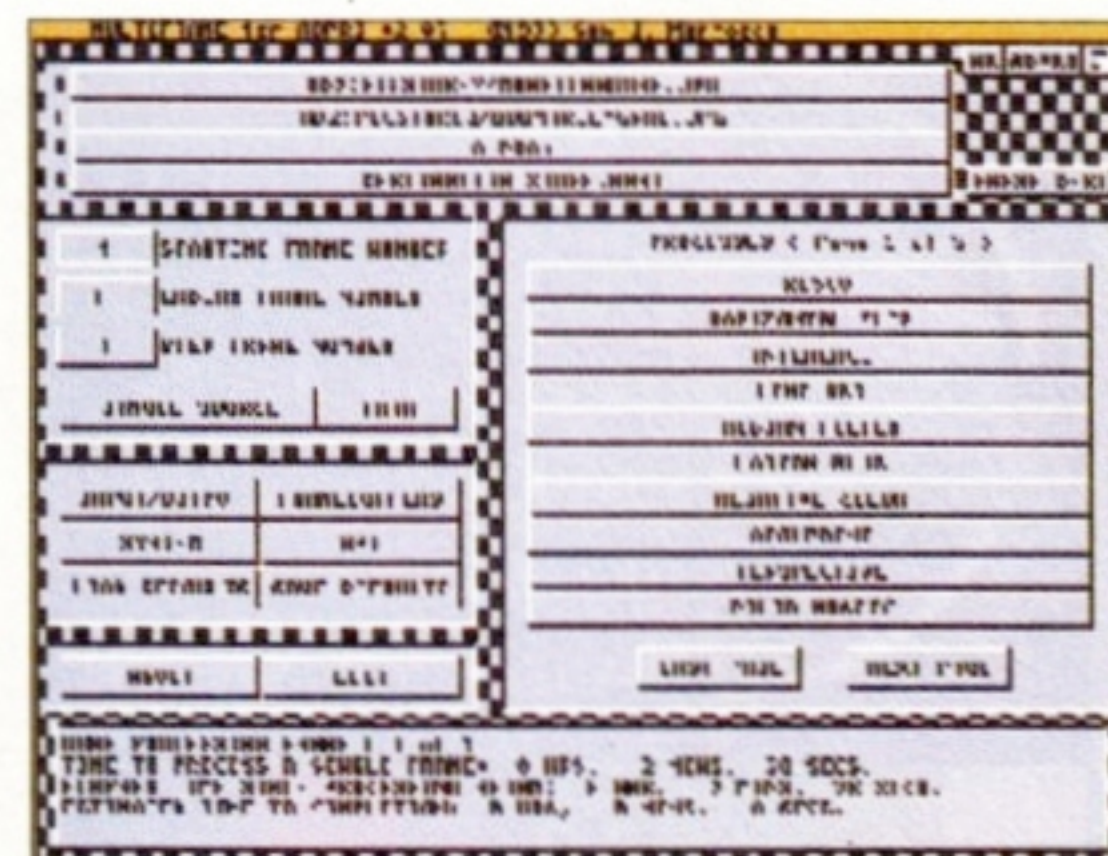
ProCONTROL doesn't require these Alpha images, yet its compositing doesn't appear to suffer in any way.

My point is this: just what is the point of all the extra processing time and energy required by both ADPTools and MultiFrame?

## MultiFrame

What about MultiFrame? Not only does it look easier to use – it is easier to use. That's only the half of it I'm afraid. Sadly, MultiFrame also fails to reach the required standard, for several good reasons....

The first is that MultiFrame (paradoxically, considering it's name) cannot apply multiple operations to an image sequence. It only permits one process to be chosen for each pass – meaning that several discrete passes are required in order to achieve a multi-effect result such as Scale, Colour\_To\_Grey and convert to Line Art. Both ProCONTROL and ADPTools do multiple effects.



**MacroSystemUS's MultiFrame-ADPro is just one of several recently-released applications designed to simplify the use of ASDG's Art Department Professional or Morph Plus image processors.**

The second problem is that a single image cannot be extrapolated over a series of frames as a background for a composited sequence. For example, say I have an image I want to use as a background for a 250-frame ADO-type sequence (for which I have previously prepared the foreground images). The only way to achieve this effect is to copy the background image 250(!) times.

Each of these must be numbered individually (for example BG.0001, BG.0002). They then have to be saved to disk in order that *MultiFrame* can find and load each separate image every time a new background is needed – even though they are all identical! This is just plain stupid and could easily overload your hard disk into the bargain. In fact, having to call your



One of *MultiFrame*'s 'unique' effects in action – putting a Fresco on an otherwise mundane scene. Looks neat uh?

images 0001 and so on is daft anyway (try doing the renaming by hand!). However such a standard requirement as adding a static

background over a series of frames really shouldn't cause so much fuss. The other programs don't require it, why should *MultiFrame*?

But it's not all doom and gloom. Like *ADPTools*, *MultiFrame* offers spline-based control over the progression of an effect across a number of frames. In practice this enable such effects

as Ease In/Ease Out to be generated, making animated effects smoother and more pleasing to the eye. It also provides an easier approach than *ADPTools* though not as pleasant nor comprehensive as *ProCONTROL*'s. *MultiFrame*'s best feature is its support for several different graphics cards – including Harlequin, Retina, Opalvision and DCTV – so that processed images can be viewed at top-quality if one of the supported cards is attached to the host Amiga. Additionally, if you need to use video equipment fitted with General Purpose Interfaces (in order to record images as they are rendered) there is provision for GPI support – though you'll also require MacroSystemUS's optional 4-way GPI hardware. Unfortunately, I don't have any further details on this right now.

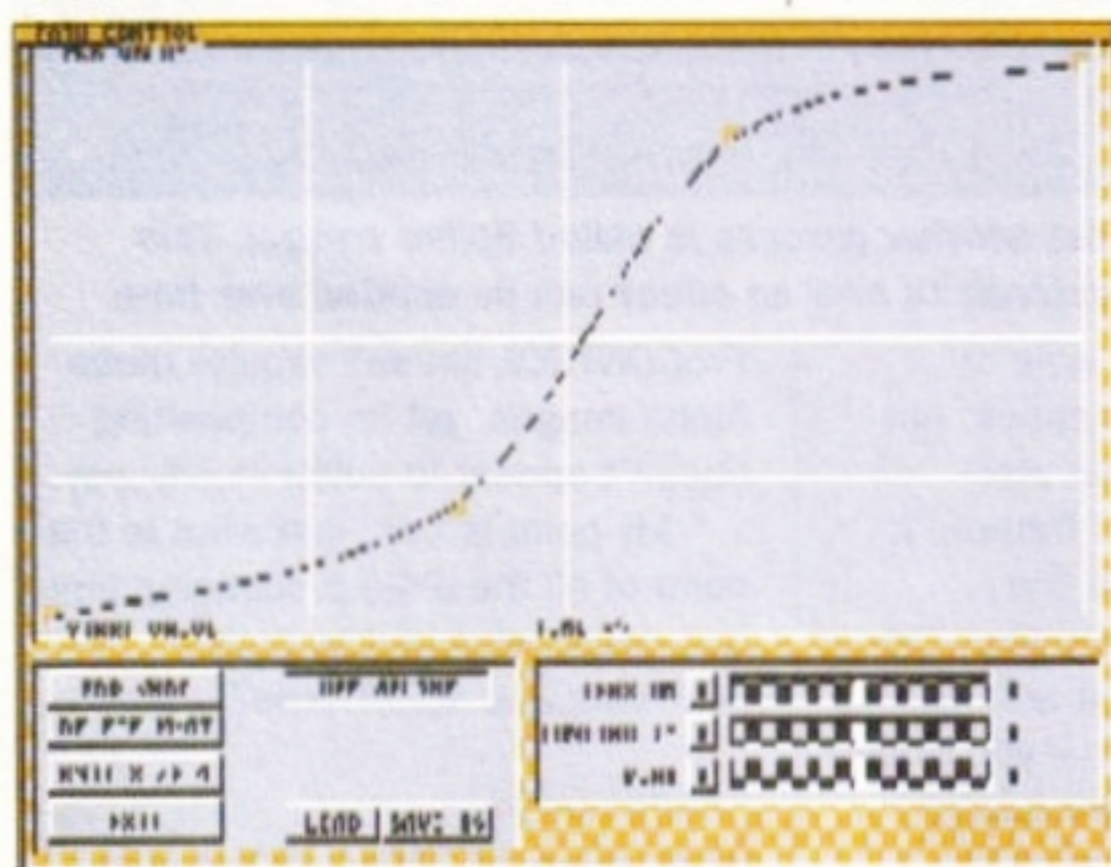
*MultiFrame* also extends the scope of one or two image processing operations a little further – including adding extra options to *Morph Plus*' Ripple operator.

There are also several novel processing combinations that don't exist elsewhere – for instance Fresco, a heady mix of Displace\_Pixel, Median Filter and Convolutions, that produces the rather nice effect you can see illustrated above.

Unfortunately all these extras are hard-coded into the program and there appears to be no way of adding your own image processing recipes for batch-processing effects.

## IN CONCLUSION

I'll stick with *ProCONTROL* for now. Spline-based control (which both



*MultiFrame* includes spline-based effects control among its array of image processing options.

# BEAT THE CLOCK

**A**lways running short of time when it comes to heading up your video? Or perhaps you've never even thought about what a video clock could do for you? Well, for just £30 (plus the dreaded VAT) Zen's *VTclock* can save you lots of time and trouble.

For the uninitiated, I'd better explain just what a video clock is used for, and why you might need one.

## CLOCKING ON

At the start of every professionally-made video programme there are usually several things that the casual viewer will hopefully never see,

unless that is someone makes a hash of their cueing job!

These are: a section of black, some standard colour bars, and an audio tone. All of these elements serve to check the output levels of the viewing or transmission equipment. There is also a video clock that serves several incredibly useful VT-related purposes.

One of these purposes is to convey information about the programme. This information includes its title, the names of the producer and director, the duration, the completion date and other relevant material.

Another purpose is to provide a cue and countdown clock in case the taped programme needs to be fed into a live television system, whether cable, or transmitted.

Recording such a clock onto tape immediately before the programme makes it easy for an operator to line the tape up so that the first pictures arrive right on cue.

At least that's the theory, regular TV viewers with a taste for the technical will often spot rogue VT

clocks that have crept in unannounced and unwanted.

## MAKING TIME

As anyone who has tried to make their own VT clock will tell you (and many Amiga videographers have doubtless tried) it isn't quite as easy as it looks. You can get close, but



Whilst deceptively simple in its appearance, Zen's *VTclock* has all the right features for video work.

## AUDIO ROLL 5

Voiceover clips for archive inserts - including Wilson, Keppel & Betty

The scratchpad pages can be used for making ident notes between clips recorded onto 'dump rolls'.

# JARGON BUSTING

**ARexx** – a programming language supplied with all Amigas running version 2 or later of Workbench. With ARexx it's possible to write batch control scripts to automate the operations performed by many popular applications, including *Art Department Professional*.

**Art Department Pro** – an Amiga application that enables the user to manipulate images in a variety of ways.

**Batch processing** – taking many desired computing operations and automatically performing them all

in one go, with a minimum of interaction needed from the user.

**Morphing** – an effect applied to one image so that its contents are transformed so that they approach the contents of another, "target" image. Morphing is most often applied over a number of frames, creating an animated transformation of the image.

**24-bit** – a 24-bit graphics card uses 24 binary digits to store each picture element, meaning that each element can have one of 16.7 million colours.

programs hail as major features) is all well and good, but the final test of any program is whether it does what you want it to do easily and at reasonable cost.

Right now neither *ADPTools*

*Professional* nor *MultiFrame-ADPro* can adequately meet my batch-processing requirements. **AS**

E-mail Gary Whiteley as [drgaz@clx.compulink.co.uk](mailto:drgaz@clx.compulink.co.uk)

## SHOPPING LIST

**ADPTools Professional** .....£125.00  
By: Earobic Digital Systems.  
From: White Knight Technology,  
PO Box 2395,  
Waltham Cross,  
Herts, EN8 7HQ.  
☎ 0992 714539.

## SHOPPING LIST

**MultiFrame-ADPro** .....£75.00  
By: MacroSystemUS  
From: White Knight Technology,  
PO Box 2395,  
Waltham Cross,  
Herts, EN8 7HQ.  
☎ 0992 714539.

## CHECKOUT ADPTools PROFESSIONAL

### Documentation

●●●●●●●●○○○○○○○○  
Looks nice, but does little to help guide you through actually *using* the software.

### Ease of Use

●●●●●●●●○○○○○○○○  
Could be more straightforward, especially the file selectors.

### Speed

●●●●●●●●○○○○○○○○  
*ADPTools* seems slower than the competition, which is strange, since all the programs use *ADPro* functions to do their deeds.

### Flexibility

●●●●●●●●○○○○○○○○  
Some extras make life easier, but I'm sure there could be a number of useful improvements.

### Value for Money

●●●●●●○○○○○○○○○○  
As it currently stands £125 is way over the top for what this program has to offer, and how it provides it.

### Overall rating

●●●●●●●●○○○○○○○○  
A good start, but *ADPTools* is too expensive, too memory intensive and lacks the finesse to be truly called 'Professional' software. It's just not ready yet though, a deal more work is still required.

## CHECKOUT MULTIFRAME- ADPro

### Documentation

●●●●●●●●○○○○○○○○  
Small but sweet, with several well-explained tutorials, it is heads-up in the documents stakes at least.

### Ease of Use

●●●●●●●●○○○○○○○○  
Not bad, but could certainly stand some improvement if the newcomer is going to stand a decent chance.

### Speed

●●●●●●●●○○○○○○○○  
There were not too many problems in this department.

### Flexibility

●●●●●●●●○○○○○○○○  
Only being capable of applying a single process on each pass is just one of *MultiFrame*'s drawbacks – but it is one that will limit its long-term potential unless it is improved pronto.

### Value for Money

●●●●●●●●○○○○○○○○  
While not gut-wrenchingly pricey, it must be said that the price is a bit too high for the current state of development.

### Overall rating

●●●●●●●●○○○○○○○○  
*MultiFrame* has real promise but requires further work to make it a truly worthwhile purchase.

# VTCLOCK REVIEWED

unless you're a programmer with real TV experience under your belt then getting it right is rather like trying to find the Holy Grail.

However, a company called Zen Computer Services have managed this tremendous feat and they have packaged it in a simple-to-use (and rather elegantly copy-protected) program called *VTClock*.

For the techie, here's what's included in *VTClock*: Standard colour bars at 100%, 80%, 75% and 70% levels, a 1KHz tone, clock (adjustable to 30, 20, 15 or 10 seconds duration), adjustable black start (from minus 9 seconds to not at all) and fully editable Ident (identification) text.

In addition to this it is possible to add colour bars to the clock screen, display a full colour-bar screen, and toggle the audio tone on and off. You can also run a time code-style clock on screen as soon as the *VTClock* has counted down. You can also select any of five other clock or scratchpad pages and edit

the text they contain to your taste. All of which most video editors will find useful, if not invaluable.

This last feature is actually rather handy, because it means that you could, for instance, have three custom Ident clocks ready to go at the touch of a button. You can also have three scratchpad pages that can be used to easily enter text pertinent to the current contents of your videotape. A couple of examples of this might be to mark up an edit source containing only sound clips or to preface individual video clips which may have been compiled onto a 'dump roll' for convenience.

## SHOPPING LIST

**VTClock** .....£35.25  
by: Zen Computer Services,  
2 Silver Birch Grove,  
Swinton,  
Manchester M27 5FZ.  
☎ 061 793 1931

*VTClock* can use any suitable font you may have on your system, including Colorfonts and Compugraphic fonts (if you have WB 2.04 or later). All of *VTClock*'s features are easily available via function keys but if you can't remember even these ten easy keys, then press the Help key and all will

be revealed! Don't worry about losing your configurations either because all the current data will automatically be saved every time the program is exited, and reloaded upon startup.

Requirements: Any Amiga. A genlock and some video equipment would help too, as would a hard disk, though this isn't essential.

## CHECKOUT VTCLOCK

### Features

●●●●●●●●○○○○○○○○  
Not much missing, except the possibility of including your own corporate ID (though a custom service is available....)

### Documentation

●●●●●●●●○○○○○○○○  
The great thing about this program is that it is very easy to use – hence the manual is just four pages long. Is this a record?

### Ease of Use

●●●●●●●●○○○○○○○○  
Simple, straightforward. It is what any

program should be in that it's dead easy to use really.

### Value for Money

●●●●●●●●○○○○○○○○  
Sounds slightly expensive, but try making your own version if you don't like this bargain price!

### Overall rating

●●●●●●●●○○○○○○○○  
Get *VTClock* if you want the best possible start to your videos. Not only will you learn some very useful information, you'll also have a good time using it!

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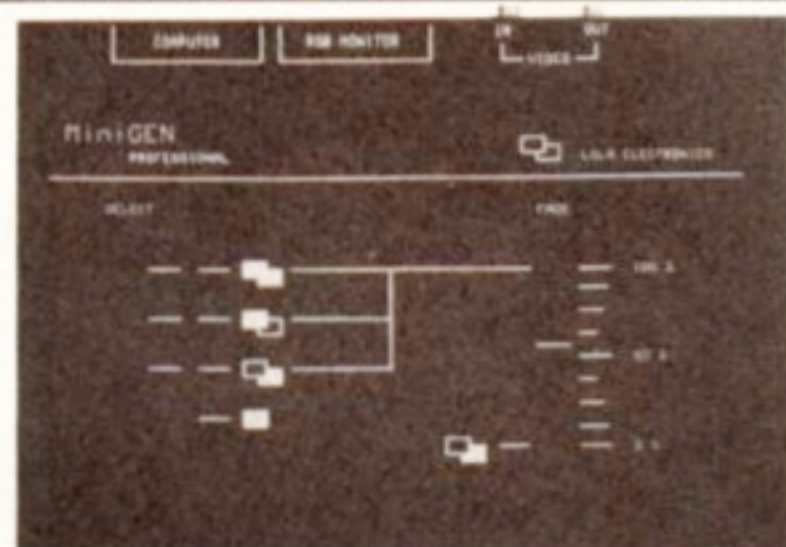
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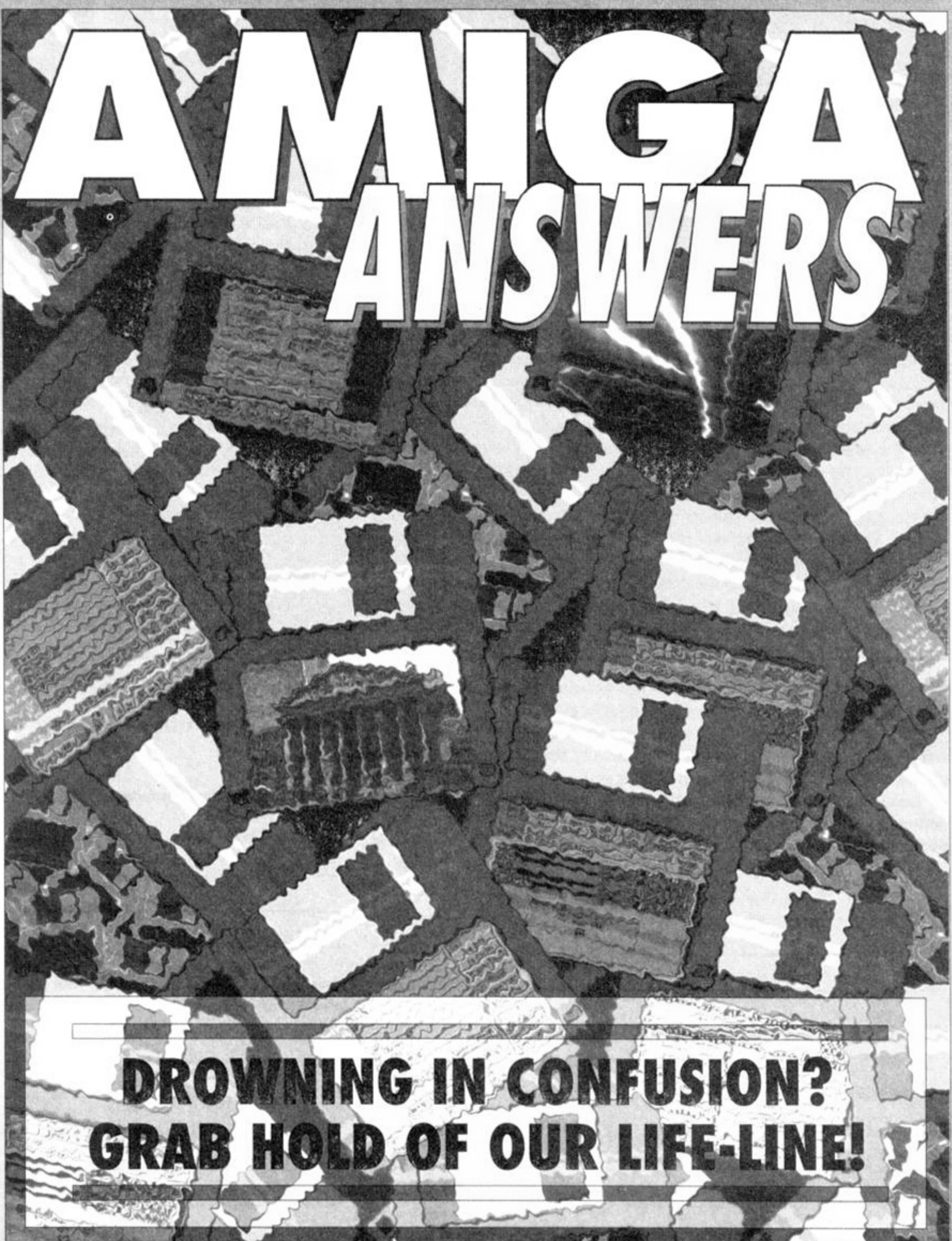
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This one's for queries about using your Amiga with video hardware such as genlocks or digitisers.



**MUSIC**

This icon is for questions about MIDI, sampling, synthesisers and music software.



**SOFTWARE**

Queries about specific software packages or programs have this icon next to them.



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If your question relates to comms, including modem problems, this is the icon we'll use.



## HORSES FOR COURSES



I am in my final year at university and very much an Amiga novice. I have to do a project that must be word

processed. I cannot afford a good printer myself but do have access to the university's laser printers. The university's computers run *Microsoft Word 5.0* and *5.5*, and *Word for Windows 2.0*, but these terminals are often very busy.

I would like to know if there is a word processor for the Amiga the files of which could be used with any of the above packages. I want to prepare the document on my single-floppy, 1Mb Amiga 500 Plus and then print it on the university's laser printer.

John L Gregory  
Seamer  
Yorks

With no second floppy drive and only 1Mb of memory you will have trouble doing anything productive on your Amiga 500 Plus, let alone word process a whole project. The computers at the university will have the necessary resources – upwards of 8Mb of memory and a large hard drive each, or maybe one shared via a network. The Amiga also needs resources, even though it doesn't actually come with very many. An external floppy drive and a 2Mb memory expansion, which is the minimum you need to even think about using the Amiga productively, are going to set you back £200-£300. Then you'll need to cough up another £100 or so for either *Final Writer* or *Wordworth 3*, the only Amiga word processors that compare with the PC packages you mention. You may have to use the university's *Word for Windows* after all. **JW**

## IN THE PINK?



When my Amiga tries to load something from disk, the Workbench screen moves up and down and the colour of the title bar flashes. Occasionally, I get a pink bar about a third of the way up the screen too. Other than that the computer appears fine.

W. Crowe  
Stamford  
Lincolnshire

This could be a problem with your monitor, but it is more likely to be the power supply unit (PSU load increases under disk access) probably in the Amiga itself. You could try changing Workbench to "PAL low-res" from ScreenMode Prefs but I suspect the fault is in the computer and it should be returned for repair. Send the PSU back too just in case. **MS**

## TABLET PUSHER



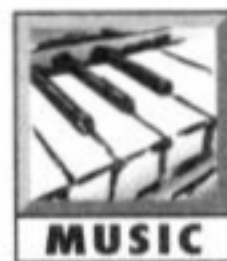
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tablet. I have tried a couple of companies in the UK but with no luck. I understand the item is distributed by HB Marketing as explained in your 'Product Locator'. However, I have tried to telephone HB Marketing on a number of occasions but with no success? Do you know of another company that handles the Podscat range of graphics tablets?

Paul Norris  
Mooncoin  
Co. Kilkenny

HB Marketing have unfortunately gone out of business and, as far as I am aware, no other company in the UK handles the Podscat range of graphics tablets (if anyone knows different, then write in and tell us!). All I can suggest is to contact Podscat themselves using the address or phone number published in the manual. Sorry. **JH**

## A TERRIBLE HOWLER



I have recently bought a Yamaha PSS-790 and am thinking of buying a MIDI interface to use with my A500 and *OctaMED Pro*. I've heard that there is a problem with the PSS-790 when using MIDI in that it echoes the messages that it receives. Does this mean that I can't use my keyboard for MIDI purposes?

M Nottingham  
Bath

The PSS-790 does echo every midi message it receives at its MIDI-in connector straight through its MIDI-out again. When you have a MIDI interface connected to the PSS-790 via two MIDI cables, as per the usual sequencer fashion, this causes something that is known in the

business as a 'MIDI feedback loop'!

You can use your PSS-790 with *OctaMED Pro* as a pure input source (just have the MIDI-out of the PSS-790 connected to the interface's MIDI-in) in order to record riffs. You can similarly use the sound circuitry of the PSS-790 when playing back *OctaMED* compositions (by having just the MIDI-out of the interface connected to the MIDI-in of your synth). What you can't do is have both leads connected at once unless you can eliminate the above mentioned feedback loop. There are a number of ways of doing this.

It can be done via the sequencing software by filtering out all input data except for the channel you are using. Some sequencers, such as *Sequencer One Plus*, provide an option specifically for this Yamaha problem – unfortunately *OctaMED* cannot do this.

An alternative is to use an external filter in the MIDI line (between the PSS-790's MIDI-out and the interface's MIDI-in connectors). This has to be set to filter out all messages except the channel you are playing on with the sequencing software set so that it does not re-transmit the incoming data on the channel being used (which would cause a feedback loop)!

Philip Rees (0608 811215) make units for doing this sort of channel-selective message filtering stuff but at the moment this is a custom order facility only (it costs about £70). Another possibility is the *Forefront Technology Patch Commander* available from BCK Products (0708 448799) at £79.99. This is actually more of a MIDI diagnostic and control too but it does offer message filtering facilities. Do however check with BCK about suitability because it has been a while since I have seen this particular unit I am a little hazy about its exact filter capabilities. To solve the PSS-790 problem any filter must be able to remove all messages except those on a specified and user-

selectable channel! I must admit that while the above techniques do solve the echo problem they are not solutions that I'd use. To be honest my remedy would be to cut my losses, get rid of any synth that had this type of echo problem and get one that didn't! **PAO**

## CATCHING UP



I am planning to upgrade my Amiga 500 Plus to an A1200 with 120Mb hard drive. I want to do a lot of

desktop publishing work with *PageSetter 3* and would therefore like to increase the amount of RAM I have. Can PCMCIA cards with, say, 4Mb of RAM be used as permanent memory expansions? Or are they really designed to be a sort of 4Mb disk – to store data to take to another machine I mean? If they can be used as a pure expansion, is there any loss of speed while they are being accessed?

How can the GVP A1230 accelerator have a maximum of 32Mb of RAM when most other trap-door fitted boards can only achieve about 8Mb or 9Mb?

What is the "real time clock" available with trap-door Amiga 1200 expansions? Can I assume it is not a "tell the time" type of clock like the Amiga 500 expansions had?

I will probably get the Desktop Dynamite pack when I buy my 1200. Am I right in thinking that *Wordworth V2-AGA* will enable me to use the built-in fonts of my Canon BJ-10sx?

Ryan Cartwright  
Chigwell  
Essex

You can certainly leave a 4Mb PCMCIA RAM card permanently in the slot, thereby giving you an extra 4Mb of RAM. But bear in mind that the 1200 is a 32-bit machine and the PCMCIA memory is only 16-bit, this means it won't be accessed as fast as a 32-bit RAM expansion in the trap-door. In fact, adding PCMCIA memory slows down the Amiga 1200 very slightly, whereas the addition of 32-bit memory doubles its speed.

Please think long and hard before buying a trap-door expansion that has room on its board for only 4Mb of memory. A total of 6Mb of memory may sound like a lot, but memory intensive applications such as desktop publishing eat that amount of memory before lunch.

A more sensible approach would be to buy a board that can have up to 8Mb of chips added. Because of the way the machine is designed, that's as much memory as you can add to the 68020-based Amiga 1200. By upgrading the CPU to a 68030 (by fitting the GVP A1230 for

# JARGON BUSTING

**Accelerator** – a device which either includes a central processor like the Amiga's, or a more advanced one in the same range, but operating at a higher speed. An accelerator is useful for calculation-intensive applications, such as 3-D rendering.

**MIDI** – Musical Instrument Digital Interface is a standard devised by electronic instrument manufacturers, allowing a number of synthesisers to be controlled by

a single keyboard or sequencer.

**RAM** – Random Access Memory, so called because any part of it can be accessed immediately, rather than having to search through from the start of memory to the point of interest. RAM is used to hold programs while they are being executed and temporary data that the programs are manipulating. The contents of RAM are lost when the power is switched off.

example) you can use higher capacity RAM chips. There's room on the A1230 for 32Mb of them, but the upper limit is much higher than this. In the case of the 1200 the limiting factor is the relatively small amount of space under the trap-door.

A real-time clock is a small amount of battery-backed memory in which the current year, month, day and time are stored and continuously updated. This provides applications with the correct time whenever the computer is switched on without the user having to type it in.

Lastly, yes, *Wordworth* v2-AGA will enable you to use the fonts in your BJ-10sx. **JW**

## NOT SO SPECIAL FX



After saving my Jurassic Epson FX-100 printer from a scrap heap and blowing away all the mouse manure I was left with quite a good machine considering its age and the commercial abuse it has taken.

But it is rather basic and I was wondering if I could upgrade it to near letter quality, add some fonts, and increase the size of its buffer memory, which only takes a few lines of text.

Tim Williams  
Trenwydd Park  
Gwent

You sure it was mouse manure you blew away, not bovine manure?

The only way to "upgrade" your FX-100 is to give it back to the mice and buy a more modern printer. **JW**

## COVER DISK DETAIL



I find that a lot of your magazine's coverdisks will not run on my Amiga, or items on them won't run. I have

returned disks, but replacements behave identically. The most common fault is the screen going blank, and the keyboard freezing. This happens with disks that state "All Amigas". Is my CDTV faulty, or do I need some fast memory? Would a switch to turn off the CD part be the answer? Also, I am told that when I am installing a virus checker, that "Workbench is full". What can I do?

David Whiting  
Orton Goldhay  
Peterborough

There are a number of reasons why some programs will not run on your computer. Some badly written software, while working fine on some Amigas will not run on some specific setups. The reason your screen goes blank (and I presume the CDTV resets as well) is that your machine is "crashing", which means that the

program it's running has a bug or problem with it. Adding extra RAM may not be the answer but it will make a lot more applications (which need fast RAM) run.

The CD drive in your system takes up a little memory and this means that programs that would normally run fine on a 1Mb RAM system might be unable to run on yours because they are a few kilobytes short.

There is a PD program that enables you to switch off some of the CD associates and reclaim some memory - of course a switch may also help.

Beware and do be warned however, that any modification of this kind will invalidate your warranty and check with someone qualified before trying it. **TS**

## CD32 LOVES A1200?



I want to use CD32 titles on my A1200. I've heard rumours that the CD32 plugs into the bottom of the

A1200 (the trapdoor) which is currently where my 4Mb RAM expansion is.

Can you buy a two-way adaptor from Commodore?

I read in another magazine that to use the CD-ROM on an A1200 you need a Kickstart 3.1 ROM chip fitted to the inside of the computer. I understand that doing this invalidates the warranty.

So would it be a better idea to buy a CD32 and a floppy disk drive if I wanted to transfer software on to my A1200?

Calum Douglas  
Helensburgh  
Scotland

No, you can't buy a twin trapdoor adaptor, not from anybody. Why do you want to transfer software to your A1200? Not bootlegging? No one in the universe admits to that one. The trouble is that, to transfer a whole CD on to an A1200 will require

approximately 1,200 disk swaps. If you real want to do this then you're bloody mad! **PM**

## 24 FOR 500



I have an Amiga 500 Plus and I've recently become interested in ray-tracing. I now feel the need for more

colours. What would you say the best 24-bit graphics card is for my machine? I've been thinking about DCTV but a while back you said there would be an A500/A600 version of OpalVision. If this is now available how much is it, and is it any good? My ray-tracing package is *Imagine 2*.

James Allard  
Crediton  
Devon

James, to be brutally honest with you, your current A500 Plus (2Mb RAM, no hard drive) really isn't going to get you very far in the ray-tracing game, especially if you wish to produce 24-bit images.

I say this from experience.

An average 24-bit ray-trace can easily take up to a megabyte of RAM on its own if you want to work in hires. Rendering it on a plain A500 will take ages without an accelerator (though if you have plenty of time that's really no problem - leave your Amiga on overnight).

Then you have to store the image somehow. You could run a program such as *Rjpeg/Djpeg* that would compress it into JPEG format so that it will fit more easily on to floppy disk, or you could render it in HAM format (though this option doesn't solve your need for more colours).

Unfortunately there's no sign yet of an external OpalVision - possibly because the new HAM8 capabilities of the Amiga 1200 make the production of such a card more of a commercial gamble for the companies concerned - so I'm afraid there are only a few limited choices for you just now. DCTV is OK, but its

video output (should you need it) isn't of the highest quality, though an S-VHS version is available. There's also *AVideo-24*, which is also pretty good, though it isn't easy to get hold of nowadays.

If you really want to make serious inroads into ray-tracing I think you'd be better off buying an Amiga 1200. Even then you'd need to add some more memory to it and possibly an FPU (Floating Point Unit, also known as a math co-processor) and a hard drive, instead of buying a 24-bit card. The HAM8 output of this machine is almost as good as 24-bit. Plus, if you render your *Imagine* images in 24-bit (*Imagine 2* doesn't support AGA modes) and convert them to HAM8 (using a program such as *ImageFX*, *ADPro* or *Rend24*, the shareware program available on *AS34*'s cover disk) then you'll have both a pretty good display and a capable Amiga that will take you much further into the future than your present Amiga 500 Plus can.

I know this probably isn't the answer you were looking for, but to my mind it's a better option for you than buying a 24-bit card for your A500. **GW**

## AMOS'N'ICON



I have written my own AMOS program. How can I load my program without having to load AMOS first?

Please explain.

Secondly, how do I give an AMOS program an icon?

I have my program code on a disk with IFF pictures for my program (made with *Deluxe Paint III*). However, when I load up my *Workbench* and display the contents of the disk, the only icons I see are those for the IFF picture files. I have not compiled my programs so I'd be grateful for any information you could give me.

Austin Walters  
Mid Glamorgan  
South Wales

Producing stand-alone AMOS programs depends entirely upon the version of AMOS that you own. If you're using Easy AMOS for example then I'm afraid it's not possible.

If, on the other hand, you're using either AMOS Classic or AMOS Professional then fortunately you're in luck... bundled with AMOS Classic is a runtime only version of AMOS called RAMOS.

This will enable you to run your programs completely separately from the main AMOS program and, what's more, you can even give out copies of your program to friends and family providing none of the actual AMOS System files (minus RAMOS, of course!) are included.

# JARGON BUSTING

**Kickstart** - the most basic and central part of the Amiga's operating system. These days it is held in ROM, so that it is immediately present when the machine is switched on.

**Ray trace** - a means of drawing a three dimensional picture where objects are specified as geometrical shapes with definable surface textures. Light sources can be placed at will in the imaginary area. The Amiga then draws the

scene by tracing the possible straight-line paths of light from these sources to the objects and using the laws of optics to calculate reflections and shadows.

**24-bit graphics** - the Amiga uses between one and eight binary digits to store the colour of each pixel of a display. This means that between two and 256 colours can be displayed. Hardware add-ons can use 24 bits per pixel, giving a possible 16.7 million colours.

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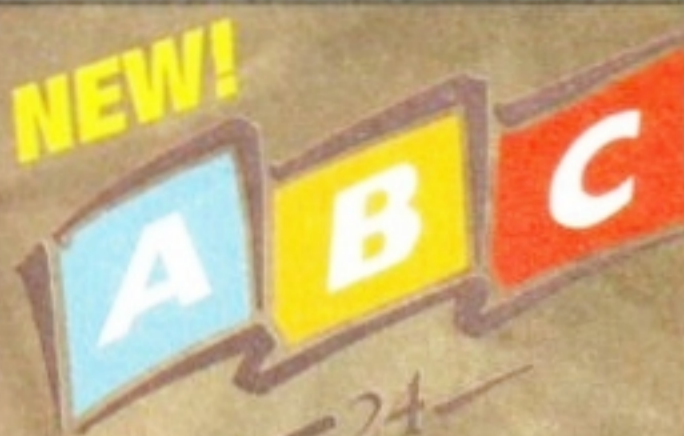
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## NEW 40MHz & 50MHz ACCELERATORS FOR AMIGA 1200



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### MMU OR FPU?

The 50MHz version includes a built-in Memory Management Module (MMU), for more sophisticated memory control. An optional FPU (Floating Point Unit: for faster maths calculations) is available for the 40MHz version (see below) and 50MHz version (call for price), both have RAM upgrade options (up to 32Mb, see below).

### UNIQUE MODULE EXPANDABILITY

The A1230-II is unique in that you can add further functionality to your Amiga by using expansion modules. GVP will be releasing a wide range of optional modules, the first being a high speed SCSI-2 interface. A 16-bit sound sampler and real time frame grabber will follow shortly. All modules can be fitted without invalidating the Amiga's warranty.

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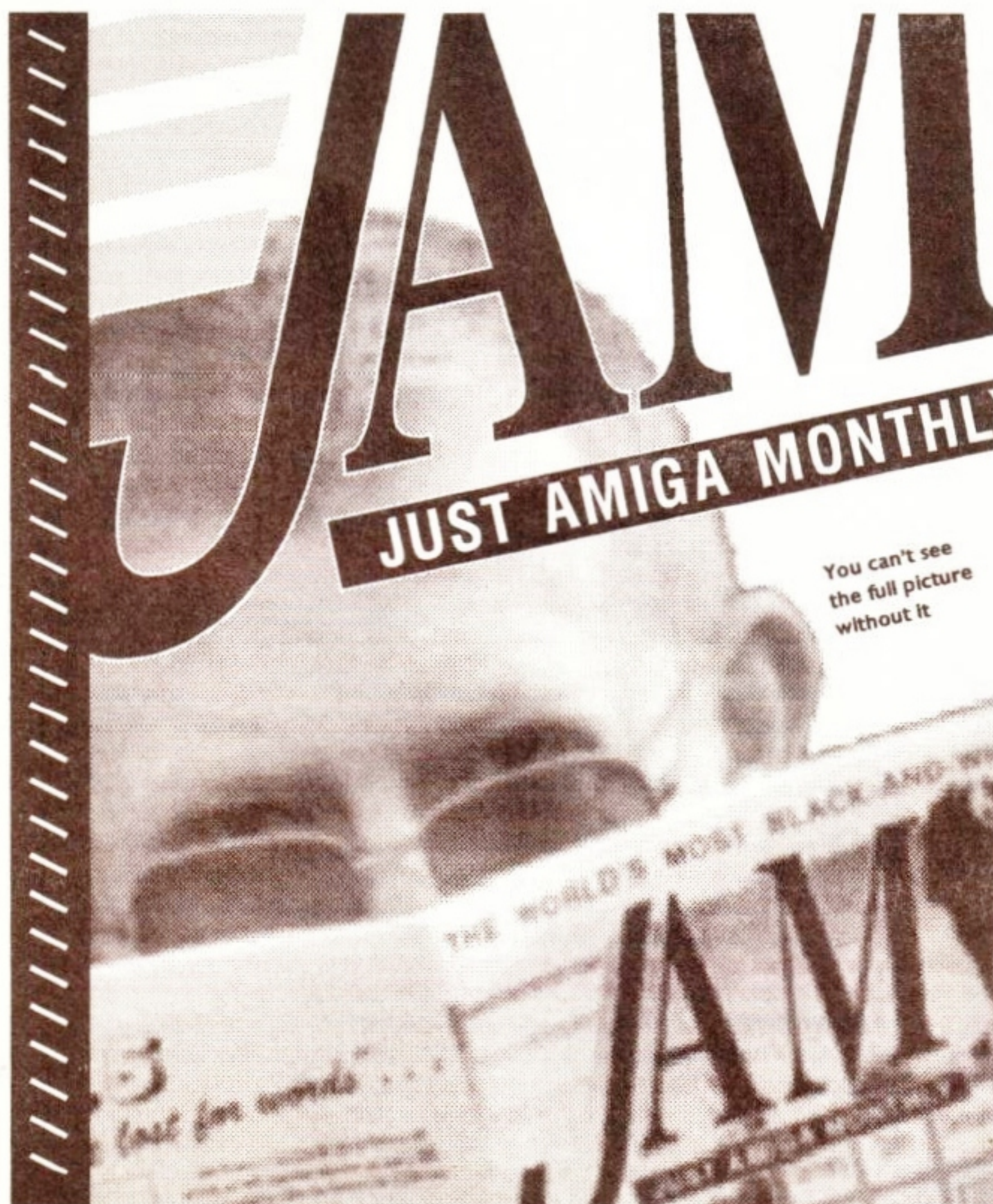
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AMOS Pro uses a slightly different method that gives pretty much the same results. Simply backup your AMOS Pro System disk and delete the following files.

**AMOSPro.Editor**  
**AMOSPro.Editor\_Config**  
**AMOSPro.Monitor**  
**AMOSPro.Monitor\_Resource.**

Once you've done this, copy across your AMOS program and rename it **AutoExec.AMOS** and it should load and run whenever your machine is booted from this disk.

If AMOS is not automatically creating icons for your programs, then it sounds as if you have switched this option off from within the AMOS configuration program.

Simply load this file into AMOS and turn on the **Create icons for AMOS programs** option and AMOS should then save out icons whenever you save your AMOS programs. It's all very simple really. **JH**

## MBX-UK



**HARDWARE** I have had my A1200 for 6 months, and although I did fit an MbX 1200 with FPU and 4Mb of RAM, this did not speed my computer up by much, so I have sold it.

I am looking for something faster. I use all sorts of programs, and I have just sent off for *Imagine 3*, and I use *Scuplt Animate 4D*.

I do not know which one to get, which is the best of the M1230XA with 50Mhz 68030 or the GVP A1230 with a 40Mhz 68EC030. What does the EC stand for?

Chris Carrigan  
 Crewe  
 Cheshire

Assuming the RAM you added was on the MbX card, and not on a PCMCIA card then it should have made your machine run about twice as fast.

An FPU (Floating Point Unit) would help any floating point application such as those you are already using and those you want to use. If you want to get real performance then you will need to add a faster processor such as the two boards you mention.

Both are excellent products. The MicroBotics board comes with a clock and its 50Mhz 68030 will be faster than the 40Mhz one, it also has an MMU (memory management unit). However, unless you do a lot of development work, or want to run *GigaMem* (which enables you to use part of a hard drive as extra memory – handy for rendering operations) there is not much use for the MMU.

The GVP card is cheaper, because it uses the EC version of Motorola's processor. And, because you asked, EC stands for Embedded

Controller, but think of it as a cut down 68030. It does not contain the MMU part and therefore costs less. **TS.**

## BOOTIFUL



**HARDWARE** When I switch on my A1200, my hard disk never boots straight away. I get the screen image of a floppy disk going into the drive. If I reset the machine (Ctrl and two Amiga keys either side of the spacebar) then it boots fine. What is the problem and can I fix it? I am an electrical engineer, by the way, but I find *HDTtoolbox* a bit obscure.

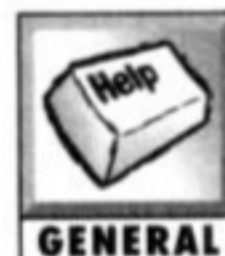
Oh yes, whenever I run *Monkey Island*, the graphics are all jumbled up. How do I cure this?

D McFarlane  
 Watford  
 Herts

Almost certainly the hard drive is not ready to boot before the Amiga gives up on it and goes for a floppy drive boot. The simple reason reason for this is that it takes longer for some hard drives to spin up to operating RPM than others.

To cure this, just fit a bigger capacitor on the A1200 reset circuit to give your hard drive a chance to get up to operating speed. It's the poor people who don't know how to use a soldering iron (but who find *HDTtoolbox* a doddle) that are up the creek. As for *Monkey Island*, you have to use the Display Options to select ECS before you boot your hard drive. Just hold down both mouse buttons at start up. Yes, I know it's a pain, but the only other alternative is a PD program to select ECS after you've booted. I've never seen one but I dare say they exist. Maybe. **PM**

## BOOT PROBLEMS



**GENERAL** I recently installed a Power Computing PC1204 4Mb RAM expansion in my A1200 and I'm very

happy with the boost it has given my machine. However, any selections I make on the 'StartUp' screen (accessed by holding down both mouse buttons when the machine is reset) regarding chip set, cache, boot device etc, now seem to be ignored and the machine boots from partition DH0: using the AGA chip set and the cache enabled.

This is inconvenient because I have a number of installed programs that need the older chip set and/or the cache disabled (flight sims seem to be the worst offenders). I know the cache can be controlled with the 'CPU' command, but what about the chip set? *KillAGA* doesn't seem to do anything!

I can boot the machine with a pre-3.0 installed floppy and this automatically selects the ECS chip set, but I then have to execute a script that assigns everything over to DH0:. Likewise, if I try to boot up some non-DOS format game disks, the ECS will be enabled but the cache will also remain enabled, often causing the copy protection to guru. Any ideas?

Secondly, Commodore have stated that the CD<sup>32</sup>-compatible CD-ROM drive for the A1200 will not be useable with any other trapdoor expansions. Surely a fully buffered thru-port could be included in the drive to allow expansions to be plugged in there? Perhaps a third party hardware developer could rig something up?

Finally, any idea when the Workbench 3.0 ROM Kernal Manuals will be available? After all, £100 is a lot to pay for out of date information!

Paul Johnson  
 Liverpool

I too have a Power Computing PC1204 installed inside my A1200 and I certainly haven't encountered the problems you refer to when booting from hard disk. It sounds to me that you may have something

installed on your hard disk that stops the machine from booting up without the cache and AGA chip set enabled. If this isn't the case, then I have to admit that your problem is somewhat confusing. Why not try a copy of the program *Degrader*? – this may fix your incompatibility problems.

Commodore have indeed said that the new A1200 CD-ROM drive will not work with other trapdoor expansions and they seem unwilling to rectify this problem.

It appears that there are timing problems to consider – because trapdoor expansions require precise timings, any form of thru-port could create real problems.

I have spoken to a number of hardware manufacturers concerning such an upgrade and they claim that they are currently looking into the possibility of making some form of expansion 'chassis' for the A1200 that will allow two or more trapdoor expansions to be connected. It seems inevitable that someone will come up with the goods sooner or later – until we get further news, however, I'm afraid it's a case of wait and see.

The official 3.0 ROM Kernal manuals are still being prepared and I know for a fact that the AGA *Hardware Reference* manual is almost done. When they are released is unknown, but I would guess that we should see the first around March of this year. **JH**

## SHORT AND STRANGE



**VIDEO** The GVP genlock (V1.16) will not start up while the smart card is connected. All is OK when the card is disconnected. I have tried various priorities on the genlock (from -5 to +30) but to no avail. Do you have any ideas please?

A Green  
 Hainault  
 Essex

Sorry – what smart card? Do you the Amitek RAM expansion? And by GVP genlock I suppose you mean the G-Lock? If you don't supply more details about your setup than A1200, 6Mb RAM (2Mb CHIP, 4Mb Amitek) and 60Mb hard drive then what am I supposed to think?

If it is of any use to you, when I checked out the GVP G-Lock some time ago I had quite a few problems getting it going – both on a GVP-accelerated Amiga 2000 and on a standard A1200.

I must say I had far fewer problems on the A1200, though this was a vanilla machine (an A1200 just as it comes out of the box). Since you seem to be saying that the genlock works OK when the extra memory is not installed then it is

# JARGON BUSTING

**ECS** – Extended Chip Set is the name given to the versions of the Amiga's custom chips, present in the A500 Plus, A600 and A3000, which handle graphics and sound.

**FPU** – a Floating Point Unit is a chip that will work in conjunction with the CPU to carry out complex mathematical tasks. Carrying these out in hardware rather than software greatly speeds up the running of certain programs, particularly those that make use of

3D graphics.

**Genlock** – a way of slaving one video source (eg Amiga) to another (eg video tape) in order to synchronise their signals to allow stable wipes, mixes and other effects including overlay between the two sources.

**Hard drive** – like a floppy drive, but bigger and faster. The disk can't be removed, so once it's full, delete excess files or get another one.

more than likely that there is some conflict between the genlock and the RAM card.

Instead of trying to answer this question directly myself I think you'd be better advised to talk to your dealer, explain the problem and see if they are willing to let you swap kit on a trial basis.

Because this is probably unlikely (unless it is a very trusting dealer) then your next option is to call Silica Systems (081-309 1111), because they are the UK distributors for GVP products, and they also sell Amitek expansions. Ask to speak to the technical department and explain the problem in as much detail as you are able (which better be more than you've given me).

If you're lucky they'll have come across this problem before – which I have to admit is more than I have – and will hopefully be able to put you straight. **GW**

## OPTICAL DELUSION



I'm tempted to get Power Computing's 20Mb Floptical disk unit as I need a removable disk system.

Where do I get the disks from and how much do they cost?

I own a bare A1200, and the only versions of the drive advertised are an external A500 model and an

internal A2000 model. I know it's a SCSI drive, but do all SCSI devices work with all SCSI controllers? I'm only asking because my old floppy drive didn't work with my A1200.

Sean Eaton  
Surbiton  
Surrey

You can get the blank floptical discs directly from Power Computing, who are more than smart enough to be able to supply blank disks for their own drives. Be warned though that prices can go up and down fairly quickly, so you're better off phoning Power Computing first before placing an order.

Yes, well, most SCSI (Small Computer System Interface) drives work with most SCSI controllers. However there are a very few exceptions to this rule (aren't there always?), such as the multiplay Pioneer SCSI CD-ROMs. SCSI is a much tighter standard than Commodore's floppy disk

Incidentally, the A1200 floppy fiasco wasn't really CBM's fault – third part suppliers cut corners to boost performance.

One thing that does fool people about SCSI though (and here comes a useful tip heading over the horizon), is that the all the drives in the SCSI chain need to have their

resistor packs removed, all of them except for the last device in the chain that is. If you don't do this, then the drives will still work, but will fail to operate consistently. **PM**

## VISION OFF?



Perhaps you can help me? I have AmigaVision version 1.53 (rev G) which I use on an Amiga 1500 fitted with 3MB of RAM. Since the company that I purchased the software from no longer exists perhaps you can answer the following questions for me?

1. Is there an AmigaVision helpline or user group? I cannot find anyone else who can help me!
2. Will this particular version colour cycle in HAM? I cannot make it do so, though it cycles OK in 16, 32 and EHB modes.
3. Is there a later version available? Does this colour cycle in HAM? Can it control any consumer video recorder (eg using the Panasonic FS90 or FS200B)?
4. Is there a package on the market that has similar functions to AmigaVision and will colour cycle in HAM and control consumer VTRs?

Dave Unreadable

Truro  
Cornwall

To answer your second question first I dug out a copy of AmigaVision (which just happened to be the same as yours, 1.53, Rev G).

Before I loaded it up I used Deluxe Paint IV to make some colour-cycling HAM screens and saved them. I used these as tests for AmigaVision and had no trouble at all getting them to colour cycle. I take it that you are using Gfx to set the colour cycling order and adding a delay so that there is enough time to see the image and commence the cycling? I've included a screen grab of my test presentation to give you a bit more of an idea of what I did.

In regard to questions 1 and 3, I have no idea about either of these. An extended version of AmigaVision has been due for some time (I think it was going to be a professional version) but I've not heard much about it for some time.

Perhaps your best bet is to call Commodore (since they were developing AmigaVision) and see if they can help you.

As for your last question, yes, there are other programs around that provide the functions that you're looking for but which could cost quite a lot more than AmigaVision.

I'm thinking of a combination of the newly-released Scala MM300 (see the review in next month's issue) and Scala's new Echo EE100

# CODE CLINIC

# CODE CLINIC

# CODE CLINIC



## TOBY SIMPSON BATTLE WITH THE AMIGA O/S IN A READER'S DEMO

Author: John Whittle  
Program: Direct Blitter Access  
Language: 68000 Assembly  
Fault summary: Corruption of the Workbench screen.

This month's problem is quite fun (well it would have been for John Whittle had it not kept making his life problematic – another reason never to think that a program is finished just because you've written the last line on to the screen!).

John, the author, found it almost impossible to find a way in which the fault that caused Workbench to corrupt every so often could be easily reproducible – and this seriously interfered with the bug-hunting detective work. However, under some circumstances, when he quit from his program, the Workbench screen was slightly corrupted. Occasionally the system crashed when he tried to quit and, even more curiously, his

program worked on his A1200 and not on his friend's.

Direct Blitter Access is one of those Amiga demo-style things with a pretty copper list, some bouncing graphics, a tracker tune and a scrolly text window at the bottom of the screen.

In order to perform its technical wizardry this program accesses the hardware registers directly. The catch is, that it does it in a very naughty manner which invites doom. The program does not disable multi-tasking and, because it does not tell the OS (Operating System) that it is about to use any of the hardware features, the OS will quite happily access the blitter thinking that it can.

By some stroke of extremely bad luck this OS action can and sometimes does coincide with times that the demo itself was blitting something.

More serious was because the OS was still actually active, although you could not actually see the Workbench screen it was still there. Thus if you should decide to move your mouse around and then take to clicking a little then whatever was on

the Workbench screen underneath the demo would be selected!

Sadly several commercial games which are "sort of" OS friendly are guilty of this problem as well – you can exit your game to find loads of applications open, windows all over the place, and potentially find extensive damage caused. Although unlikely, you could accidentally format a hard disk partition, for example. Playing with the Amiga hardware directly is a dodgy thing at the best of times and, in an ideal world, we would simply not have to do it.

Unfortunately there are situations where realistically there is no choice. The situations in question concern games for the most part, and of course, those whizzy demos. In these cases its important to decide how you're going to proceed.

You have two choices: one is to disable the operating system when you start. You then re-enable it at the end and just keep your fingers crossed that everything re-starts correctly. The other way is to work "with" the OS, and "ask" it before doing anything.

The key is *do not mix these two types*. If you're going to leave the OS running (which is infinitely preferable

and leads to better compatibility in the future) you *must* tell the OS when you're going to be using certain hardware features.

These days there is no excuse and really no need to blow the OS out totally. You're just asking for problems, particularly with compatibility on multiple Amigas.

It was pretty easy to solve one of John's problems, for instance, the oddest one. His program ran on his A1200 but not on his friend's. His friend has a hard disk, and runs John's demo from a CLI window. His Amiga was almost certainly operating in an AGA higher bus-fetch, that enables the displaying of more colours than the older Amigas without slowing the machine down. Because John's program does not access the special register which controls this, then his demo attempts to run in the higher bus-fetch, which it can't, and the screen is corrupted. This is nice and easy to fix, all that is needed is a few lines of code to the beginning. Firstly, open the graphics.library and then do this:

```
move.l    _GfxBase,a6
; Load graphics library
base into A6
suba.l    a1,a1
```

domestic edit controller.

Other editing software, such as *Video Director*, may also be able to include cycled HAM images from a suitable source.

For more information on Scala call 0920 444294. Call Gold Disk on 071 4983275 for more in-depth advice about *Video Director*.

If any readers can help Dave with hints, tips and locations of *AmigaVision* user groups then write to *Amiga Shopper* and we'll see what we can do. **GW**



*AmigaVision: low-cost and not much support either. But is it any good?*

## MODEM DAZE



**COMMS** I am thinking of buying a modem, maybe a Supra 2400. The trouble is a lack of information regarding their use. So, where do they plug in? Where do you get the phone

numbers to dial? What should I expect to find – games or serious software? Any general advice would help too.

JR Howe  
Clacton-on-Sea  
Essex

Modulator/Demodulator units (Modems to you me and the BABT man) connect the serial port of most computers into the telephone network. In order to do this they have a 25-pin D-type connector to accept the Amiga end of the lead, and a telephone connector that plugs into a BT phone socket.

You only need one or two phone numbers of services, because usually they contain updated lists of other telephone numbers – you call up one to get a directory of others. PD demos often have telephone numbers to call as well.

Expect to find anything and everything, but you'll never find anything that's 100% finished. You will also need some communications software like the shareware *NComm 2*, a demo version of which is widely available through the Public Domain. And a modem cable, of course, to connect a modem to your Amiga's serial port.

Thanks for the free stamp – we never reply to SAEs, as it says in the small print. **PM**

## BLUR-O-VISION



**GENERAL** I got a new TV with a SCART socket on it. When I connect up with Linxs Amiga to the SCART connector the pictures look OK but when I run *Kindwords 2* the requester windows and the text looks very blurry. Sometimes the same happens with *Space Quest III*.

However, not all the text in the windows appears to be blurred and if I use an A520 modulator I don't get these problems. So perhaps you can tell me why, when I use the SCART connector, I get the blurring on the requester windows?

Ian Saville  
Eccles  
Manchester

I'm sorry that I can't shed much light on this one, especially since you don't mention the make of TV. It has me baffled too!

All I can suggest is either trying another SCART connector kit or fiddling with the contrast and brightness controls of your TV to see if you can improve matters.

Otherwise contact the manufacturer of the TV or the dealer you bought it from and try to get some advice from their technical staff as to what the problem might be. **GW**

## A500 TO A1200



**BEGINNERS** I upgraded my A500 to an A1200 just over three months ago, and I must say that it is an excellent machine. (But then you already know that don't you!).

At first everything worked correctly, but now I have a slight problem. When I boot up the machine, the screen is pushed over to the right somewhat, so I lose about 1cm of the screen area making the right hand side a struggle to read. This only happens when I am running Workbench, or a Workbench utility.

If I boot up with a game, then this problem seems to not be there. Things are worse when I am using a utility such as *Directory Opus*, where lots of important information is on the right side of the screen.

I was wondering if this is a modulator problem, or just my TV? If this is a problem with the modulator, I would be willing to buy a monitor. Which would you recommend?

Kevin Moore  
Bushey  
Herts

This could be one of a couple of problems. The first, and easiest is that you might have accidentally

## CODE CLINIC

```
; Clear the a0 register
jsr      _LVOLoadView(a6)
jsr      _LVOWaitTOF(a6)
jsr      _LVOWaitTOF(a6)
; Give time for VDU to be cleared
```

This calls **LoadView** with a **NULL** input parameter. The effect of this is to force the operating system to shut down its display, and revert to the old ECS 1x bus-fetch mode. **WaitTOF** means "Wait for top of frame", and the pair of them have the effect of ensuring the **LoadView(NULL)** completes before you access the hardware registers. Just adding these five lines made John's program at least run on my A4000 machine, when previously it would not.

The other area of great problem was the interrupt access. John was writing the address of his new Vertical Blanking routine directly into **\$6c**. And, while on most Amigas this actually works, there is no guaranteeing that the vertical blanking (Level 3) interrupt is actually at **\$6c**, indeed, on some of our office machines it is not. Also, this means that any essential OS level 3 interrupts will now not get processed, as you are stealing them all. There is no need to access interrupts in this

## CODE CLINIC

way. The correct procedure is to use **AddIntServer**:

```
move.l interrupt_VERTB,a1
lea int_VERTB_Name(pc),a0
move.l a0,IN_NAME(a1)
; Set server name.
move.b #0
#INT_INTERRUPT,IN_TYPE(a1)
; Set type.
move.b #127,IN_PRI(a1)
; Set priority.
lea Vertical_Blank(pc),a0
move.l a0,IS_CODE(a1)
; Set address.
moveq #INTB_VERTB,d0
SYS AddIntServer
; Add the interrupt server.
```

In this case, our vertical blanking routine is at **Vertical\_Blank**, and might look like this:

```
Vertical_Blank:
; put our code here
moveq #0,d0
rts
```

Note that we use **RTS** and not **RTE**. Putting 0 in d0 at the end means that the other OS interrupts will still work. If we'd have set this to any other value, then our interrupt would have ended the entire chain of interrupts

## CODE CLINIC

to be processed.

In the setup code above, the address **interrupt\_VERTB** simply contains a pointer to a clear allocated **Interrupt** structure, and **int\_VERTB\_Name** is a null terminated string containing the name of our interrupt, perhaps a little like this:

```
int_VERTB_Name:
dc.b "Our_VB_Interrupt!",0
```

The name you give the interrupt is entirely up to you. We're setting a priority of 127 so that our interrupt gets called first. 127 is the highest you can set the priority to. The priority value runs from 127 to -128; where 0 is "normal" and -128 is "Service me last". Adding this new interrupt code in made the program run on every machine I could test it on, but there was still one problem, which lay with the blitter access.

Before you use the blitter, if the operating system is still running, you need to call **OwnBlitter**, a routine in the graphics library, and when you've finished, you need to call **DisownBlitter**. Also, instead of trying to write your own "Wait for blitter to finish" program routine, always use the one stored in graphics.library,

**WaitBlit**, because it's just as fast, and works on all blitters known to man, and will work in the future also. Here is an example of a little code I changed:

```
; ... start of loop ...
jsr      wait_vb
GRA      OwnBlitter
GRA      WaitBlit
jsr      scroll_text
GRA      DisownBlitter
; more code...
```

**GRA** is a macro which calls the named graphics.library routine. Firstly, John waits for the vertical blanking gap to begin and then updates the scroll-text using the routine **scroll\_text**. Before calling this I call **OwnBlitter**, and **WaitBlit**, the latter just to ensure that the OS's last blit is finished. With this, and **OwnBlitter** added on the graphics-bouncing routine, all appeared to work OK, and I couldn't crash it. If you need more info about interrupts and the blitter, it's worth looking at the *Libraries, Edition 3 ROM Kernal Manual* for the Amiga. It's worth its weight in gold.

Here are the details: ISBN 0-201-56774-1. It costs around £30.

upset your preferences. Look at your **Overscan** settings. To see them double click on the *Overscan* program in the **Prefs/** drawer on your workbench. Try selecting the PAL monitor and editing the text size. You can drag the screen around using the handles on the screen and re-adjust it. Consult the Workbench manual for more information.

Alternatively, you might have edited your startup-sequence and made some changes. This could force the Amiga to open the AmigaDOS window before it has read your preferences, which could result in an incorrect display. You should never edit your **startup-sequence**, but edit the **user-startup file** instead. If you have made changes then simply recall the correct one from your original disk.

To be honest with you, buying a monitor would be the best idea anyway because you'd get a much superior display and be able to run additional screen modes with larger resolutions and no flicker.

Incidentally, the modulator problems with the A1200 were to do with colour generation and resulted in unstable displays with strange interference. This problem was fixed at a very early stage. **TS**

## KICK THE CLICK



I have recently bought an Amiga A1200 with a 40Mb hard drive and a second floppy disk drive.

May I, through your magazine, enquire whether there is a program available which can control the incessant whirring of the hard drive and the clicking of the floppies when they are not in use?

It would be ideal if the Amiga's function keys could be programmed on boot up so that I could switch the hard drive and floppy drive on and off as required.

Mr J Dunn  
Canterbury  
Kent

I'm afraid there's no way of reducing the whirring sound that your hard drive makes short of parking and then unparking the drive each time it is required. The only problem with this is that very few IDE hard drives can be parked through software, so I'm afraid you're stuck with the whirring sound.

As for your floppy drive, a software patch called *NoClick* is available from the public domain that switches off the click caused by the Amiga's disk autosensing hardware.

Just give your friendly PD supplier a call and they will be able to advise you on which PD disk you need. Once *NoClick* has been installed, the Amiga drives will

operate perfectly normally but without that horrible clicking sound.

JH

## TALKATIVE AMIGAS

Could you please advise me whether there is any way that I can connect together two A500 Pluses so that I can firstly 'bop' my dad at flight sims and secondly so that I can access the files on his hard drive and he can access my A570 CD-ROM drive?

His Amiga is downstairs in his radio room and mine is upstairs in my bedroom.

Anon  
Anonshire  
England

You're going to need two leads for this job, I'm afraid. Firstly, you'll need a null modem cable that will enable your flight, sims running on two separate machines, to talk to each other. These cables can be picked up for around £8, or you can quite easily make one yourself.

And here's how to do it... just get two 25-pin serial connectors and solder a wire between pin 7 on both and then two more wires which cross from pin 3 and pin 4 (pin 3 on the first connector goes to pin 4 on the second and vice-versa).

To be able to share devices such as your father's hard drive and your A570, you're going to need to buy special networking software. The best value networking package that I've seen is *AmiNet* which comes complete with a single interface, all the necessary cables and software to enable up to 253 machines to communicate with each other.

*AmiNet* not only enables you to load files from other machines, but you can also use it to share a printer between two machines. You'll have to buy two packs, however - one for your machine and another for your father's machine. Each *AmiNet* pack costs £59.95 and is available from Meridian Distribution on 081 543 3500. This may seem expensive, but it's about the cheapest networking system available for the Amiga! **JH**

## MULTI-CHOICE



Please could you answer some questions that I have on data transfer and processing speeds. Your answers will hopefully help me to decide

whether to purchase a GVP A530 or a SCSI 2 hard drive. I own an A500 with a 68020 processor and 4Mb of 32-bit RAM and an A590 hard drive (SCSI).

1) If a hard drive transfers data at 1Mb/sec can a 68020 CPU receive data at that rate?

2) Assuming a CPU can be measured in this way, how many

Mb/Sec can a 17Mhz 68020 and a 40Mhz 68030 receive?

3) Which will run faster:

My current setup with a 160Mb SCSI drive

or

A GVP A530 with 4Mb 32-bit RAM and no FPU?

4) I read somewhere that an A530 was not as fast as an A4000/030. Is this true? If so, how can a 40Mhz 68030 be slower than a 25Mhz 68030?

5) Will a SCSI 2 drive work on a standard SCSI interface? If so, will there be a speed difference over a standard combination?

6) Will an FPU speed up data compression with programs like *PowerPacker*?

I use my computer for music and DTP/word processing.

Simon Crawl  
Guildford  
Surrey

These are difficult questions to answer, particularly on the Amiga, because a number of factors effect the speed at which the CPU (Central Processing Unit) is able to go.

I could easily write a whole article on the subject (And I'd need to in order to explain it properly!) but I'll try and answer most of your questions in one go.

In theory, a 68000 CPU running at 7.14Mhz uses 7.14 Millions of cycles per second.

Therefore, if reading a memory location took the processor 1 cycle, as long as the memory is fast enough, it is able to read 7.14 million words/sec.

Because processor instructions take a number of cycles to execute, this all adds up to under 1-Million Instructions Per Second (MIPS) on a 68000 processor.

This performance gets hit further if the display hardware on the Amiga is working hard as is the case with a 16-colour screen for example on a non-AGA computer.

My Amiga 3000 drops from 8.9 MIPS to under 6.5 MIPS when I switch from a 8-colour to 16-colour interlaced screen. If your hard drive interface is not a DMA (Direct Memory Access) drive, then the processor has to read the data from the drive itself and, assuming that the program will comprise quite a few instructions, we're down to well under 500K/sec at this point.

Another factor to consider is that the Amiga multi-tasks. This means that when it does multi-task, other tasks will affect that processor speed even further. If you were running on a 16-colour screen, well, you'd be down to 100K/sec if you were lucky.

On the A590 without your accelerator, you'd get about

150K/sec normally and, under some conditions, much less.

Adding Fast RAM solves most of the screen performance problems because real Fast RAM's performance (as opposed to the A500 trap-door RAM) is not affected by screens with lots of colours.

Decent hard drive interfaces (and this means most modern ones), such as the GVP drives, are DMA units. This means that they transfer data into your Amiga's memory without the processor itself having to read it.

This method of computing is considerably faster. However there's an even better way: if the drive interface is able to DMA into your 32-bit RAM, it's faster still.

So long as the processor is able to process this data fast enough, then the speed is pretty much only limited by that of the drive and the memory access speed.

The 32-bit AGA A4000/030 machine will run faster than the 40Mhz 68030 on your 16-bit A500 because all memory, including the Chip RAM, is 32-bit.

In addition to this, the AGA chipset does not impinge on the performance of the graphics memory so intensely when dealing with screens with lots of colours.

If you are going to buy a SCSI-2 drive you need a SCSI-2 drive controller. Although the drive would work fine with SCSI, the advantages of SCSI-2 would not be used.

For the sort of things you do on your machine, the A530 would be a good solution because it would speed up all operations.

The GVP units are very well built and are very fast. Also, you can add an FPU at a later date which will speed up any floating point operation such as those used in ray-tracing, art packages and DTP to name a few.

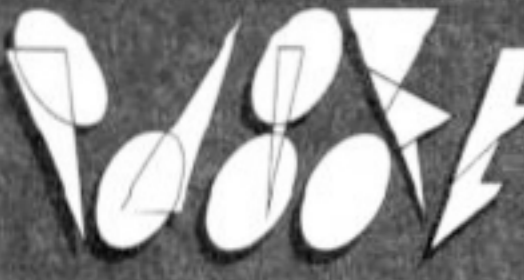
If you're interested in the raw performance of the 68000 series processors, you can buy data manuals from Motorola (the designers and builders of them) from most large book-shops. **TS**

AS

## JARGON BUSTING

**SCSI** - Small Computer Systems Interface is the standard used for connecting hard drives, CD-ROM drives and tape back-up units to computers.

**Startup-sequence** - a script which is executed every time the Amiga is switched on and after every reset. It sets up the system so that it is usable from , and may be customised by those who have unusual hard or software requirements.



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**V693 HARLEQUIN VIDEO ART** A video production with backgrounds (2)

**V698 AGRAPH v2.0** Brings the world a cheap draw Bar, Line, Area & Pie chart production/ presentation program

**V710 AREXX TUTORIAL** Includes several samples of Arexx scripts & some sample programs. Arexx comes free on all Workbench v2.x & better machines

**V711 UNIX** Working demo of Minix, a Unix based System which is call compatible

**V719 FREECOPY v1.8** Removes protected games copy protection so that the user can install them on HD

**V742 ONLINE v1.4** Program will allow you to find cheats within games

**V691 PROFESSIONAL C MANUAL v3.0** Is the largest collection of utilities, documents & examples for C. It consists of six manuals, 5 editions & 40 chapters (5)

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**V777 VOICE CU v7.0** The idea is to control the CU with your own voice

**V778 RAYSHADE v4.0** Is a complex Ray tracing package. 2Mb RAM (3)

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**V786 PASCAL** This disk contains everything needed to program in Pascal. Includes 68k 68000 assembler & more

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**V817 ASOUL PLUS EMULATOR** It sounds will let v1.3 / v1.2 owners run WB v2.x software WITH-OUT any need to purchase the Workbench v2.x chips

**V820 88885 v5.9** Baud Bandit bulletin Board System Flures Includes up to 99 file libraries, interface to extra devices

**V821 SNOOPDOGS v1.5** Monitors Dos calls to see what library, devices, fonts are required if a program won't load

**V822 BACKUP v2.43** A Hard disk backup program that features, multi-drive support, full backup, compression

**V823 POWERPLAYER v3.4** Very powerful, user friendly media player

**V826 AHDM v3.4** Hard Drive Menu. When placed in your startup-sequence, offers a 16 page menu

**V827 REPAIR-IT 2: NewZap v3.3**, Sector file editor, FDDISK v1.2, Recover as much as possible from a defective disk

**V841 MODULA-2** Contains modula-2 language on the Amiga

**V842 SD v2.01** Sd can be used for various operations, like file copying, re-naming, deleting, Moving, Formatting ect

**V844 DELTRACKE v1.3** Powerful & system friendly music player. Will play over 80 different types of music files

**V845 Q.M.J v3.31** Generate julia sets & complex Quaternion Julia slices

**V858 MUSIC MAKERS** A selection of programs to produce your own music productions. Make your own music

**V859 AUDIO TOOLS** Sound and Audio production utilities (2)

**V861 3d DESIGNER** Graphic production utilities including Clight, DKBTrace

**V865 IMAGE PROCESSORS** Tools to perform wide variety of image techniques

**V866 MODEL EXPLORER** This is the best collection of fractal generating software utilities on the Amiga (2)

**V869 ANIMATION ASST** Will solve many of your animation problems. Includes Abridge, Players, DA, AnimTools (2)

**V875 SPACE** Help you study, identify the Stars & celestial objects

**V876 SYSTEM TEST v4.1** Checks & reports on your computer

**V888 TRON CAD v1.0** The best CAD program with power functions

**V899 BACKUP v3.88** A Powerful backup utility that may be used for HD backup & File Archiving. SysInfo

**V901 FM v2.2** IntroMaker to create your own intro. IFF imports

**V924 PLOT MAP v0.85** An extra disk for use with Draw Map v4.0+ Will allow use of the program with STXK RAM

**V928 THE LITTLE OFFICE** One of the best disks at the present time. Has a Word Processor and install utilities

**V936 LETTERS & BOILERPLATE** Letters for you to use as your own or cut & paste into a Word Processor

**V942 SCREEN BLANKERS** A disk packed with screen blankers. Includes the Twilight Zone blanker along with 10 others

**V943 LYPANOVIA v1.5** Mindbogglingly colourful program that makes pictures from a mathematical formula. AGA support

**V945 PROPAG 3 ENHANCER** Over 40 Genies for use with Propag 3.0, including useful ones like Make Pie Chart. Also structured clipart for unique borders

**V946 SYSTEM OPTIMIZER** KCommodi gives you memory meters. REorg will optimize hard / floppy disks for big speed increase. HDMem virtual memory. 2 Meg of HD space for 2Mb

**V947 GNUMPLOT** Is a command driven interactive function plotter. Creates stunning plot/graphs of mathematical functions. Requires a hard disk drive

**V948 INTUITION BASED BENCHMARKS v6.0** Contains all the popular BMs like Sieve, Labyrinth, Savage, Iwath & Matrix

**V949 TESTS** Contains all of the classic speed tests & system checks we could find. Includes CPU Speed, A full featured system diagnostic tool & more

**V951 PROTECTION** Is a collection of utilities aimed to protect your data and protect auto booting + HDs & Document File. Lock your data files with a password

**V952 X-BENCH v1.0** (2) Complete solution to the replacement Workbench. Contains loads of useful utilities. LastHope, View, Virus Checker, Power packer & DCCopy2

**V958 CLUB LEAGUE** Is a utility that will allow you to edit and keep track of your divisions/leagues stats within a club league

**V962 SUPER KILLERS v4.1** (2) The latest Virus Killers like Bofix v5.23b, Virus Checker v6.33 and Virus2 v3.14 should be able to kill those nasty trojans & virus's

**V976 WB 2.0 UTILS & Heres** another of PC software with additional hardware

**V977 HD UTILS** More excellent utilities for hard drive and file editors at heart (2)

**V979 NCCOM v3.0** Is a communications program based on Comn v1.34 with lots of very nice enhancements

**V980 KICK v1.4** Will down grade your A500+ A600 or AGA machines to run all that old software that would NOT normally work. Turns them into a kickstart 1.3 machine

**V983 MEGA CHEATS v3.0c** Now contains over 500 cheats

**V984 PROTRACKER v3.0a** The latest updated version from Norway. Various bugs fixed and well over 70 brand new features

**V988 ZIPBENCH v4.0** Another Workbench replacement but contains excellent utilities like, powerpacker v2.2a, powerplayer, SysInfo, VirusK, Archiver, b-Base, Bootstrax, Degrador, Fast Aid Box (2)

**V994 THE MONEY PROGRAMMER v1.5** Features include: upto 10 millions of 60 accounts, upto 50 direct payments

**V1000 GRAPH-PRO v1.0** Written with Amos pro by David Jordan. Basically takes a set of data, plots them on a graph

**V1001 VMORPH v2.21** Will allow you to create smooth morphs/warps between two different images over a period of frames

**V1002 RAMOS PRO v1.12** You have Amos Pro then this disk will make your programs Boot without the program

**V1003 NICKPREFS** Is an enhancement to WB 2/3 which adds 3 new preferences. WBPrinter & Floppy

**V1005 WB 3.0 UTILS** Contains the first batch of AGA utilities for WB 3.0 users

**V1009 TURBO TEXT v1.1** Excellent Word Processor. Very impressive version

**V1013 POOLS PREDICTION** Need a helping hand to win the Pools

**V1016 OCTAMED v2.1** Music editor which was designed for making music

**V1017 POST v1.87** An excellent Postscript interpreter for the Amiga which implements the full Adobe language (3)

**V1021 (AGA) SCREENS** Enhance your Workbench disks with backgrounds like these. All pictures in full AGA colour

**V1022 LITTLE TRAVELLER v1.1** Shows a world map & you can select any country for travel information. Zooms up another close up map with more detail

**V1023 QUIZ** Contains Questions & Answers with the option to add

**V1024 (AGA) MANDELSQUARE v1.6** Generate enhanced AGA set images, requires numerical coprocessor. You can create 256 colour coloured pictures

**V1025 TERN v3.4** Comm program, Xpr transfer, filetype id after download, cut & paste, point-and-click, auto upload/download, V102/V1220, Anti emulation, powerfull phone book & AGA support (3)

**V1034 ARM v1.01** Flexible address database with loads of great features

**V1037 (AGA) A1200 WB HACKS** An excellent collection of Utilities & Hacks

**V1038 AMOS PRO UPDATER v1.11** 1st Update to the Amos Professional

**V1039 HARD DISK INSTALL** If you need to install your A1200 HD then you need this. Workbench 3.0 also requires disk V1075

**V1040 bBASEIII v1.4** An easy to use, versatile, yet full featured database. Greatly enhanced successor to bBASE II

**V1041 DIGITAL BREADBOARD** Full featured digital circuit simulator

**V1043 SUPER DARK v1.5** A screen blanker like After Dark from the MAC

**V1044 FANCY PRINTING Banner**, Graph Paper v1.2 and Disk Print v3.59

**V1045 uDRAW v1.0** Provides a mechanism for the rapid drawing of schematic diagrams. Bitmap oriented

**V1046 THE X-RAYE SAMPLES** Garrett Watt's IFF 808 state samples

**V1051 EASY CALC PLUS** A spread sheet designed to be both easy to use and fast. Built in excellent help system

**V1054 ADVANCED UTILS 2** Compress Disk doubles the capacity of your D on the fly with compressions. Also DiskOptimizer, SCSI Mount and more

**V1055 PARBENCH** All the software you need to hook up 2 Amiga's or CDTV's

**V1056 DEVELOPER** Contains the official Commodore developers Kit for the Amiga C64 & install utilities

**V1057 SUPERPLAY Music MOD player** that looks, acts & plays like a CD

**V1058 3D GRAPHICS** Several 3d modelling/ray tracing programs

**V1059 GRAPHICS** Create stunning graphical images. MPath creates swirling galaxy images. Roses, Rayshade

**V1060 CIRCUIT BOARD DESIGN** Includes mCAD v1.26 and several terrific routines for the electronic enthusiast

**V1061 DISK UTILS** Several highly recommended programs for performing file hard drive backup, file recovery, disk track recovery, and forced disk validation

**V1062 DESKTOP PUB** Transfers Macintosh screen fonts. AFM metric files. Amiga fonts/PPAGE metric files

**V1063 RIPPERS, STRIPPERS & BEATS** For the music enthusiast, design-ed to strip music from your favorite games

**V1067 3D OBJECTS 3** About 20 objects in Script 1.7 (Boscher format)

**V1069 PRINTER DRIVERS v5** 550c, 500, 500c, Ricoh HP1200, Canon B1300, 130, LPB, 10c, P1080a HP Paintjet

**V1070 (AGA) UTILS 2** 256 colour icon editor. Plasma256, QuickGrab v1.1

**V1071 (AGA) MSM v1.8** Martine system monitor for programmers

**V1072 (AGA) WHBLENDER v39.28** Create excellent/interesting AGA fractals. Also contains 68030/040/FFU versions

**V1073 FT-X ACCOUNTS v2.01** Was written as there are not ready any other good account packages

**V1074 (AGA) UTILS 3** Collection of AGA Based utilities. Includes Kill AGA Which allows you to run old badly written programs including demos & some games

**V1077 GENEALOGIST v3.04** Is a specialized database for keeping track of a genealogical information. Full featured & a wide selection of features to use

**V1078 PCTASK v2.03** Software/BIOS emulator. It allows you to run the majority of PC software without additional hardware

**V1079 KEYBOARD TRAINER v1.1** Best Public Domain Typing Tutor. Excellent

**V1081 REPAIR-IT 3** Contains a selection of Disk, Hard Drive repairing and file saving utilities for the Amiga

**V1083 CROSS v5.1** Is a program that creates crossword puzzles for you

**V1084 SPECTRUM EMULATOR v1.7** This is the best & latest version of the most popular emulator for the Amiga. There is an 020/030 version now on the disk which enhances the games on disk (2)

**V1087 STOCK ANALYST** Technical analysis and securities tracking program which calculate when to buy & sell shares

**V1088 WB 2.0+ UTILS** Contains ChkFrags, DPCS, FastDos, Formatter, No-Click,

## WARNING

Due to the exchange rate, or manufacturer's changes or due to current RAM shortage, some prices may alter, either up or down, during the several weeks between going to press and the end of the month of issue. We would ask that prices be confirmed by telephone before ordering.

## OLD AMIGA TRADE-IN\*

The best trade-in allowance, extra for peripherals and accessories. Trade in your old machine for a brand new A600/1200/4000/CD32 or even a PC.

After trade-in, equipment is checked and refurbished by our engineers and is then offered at bargain prices, complete with 3 months warranty.

**A500s FROM £139**  
**A1500s FROM £199**

A600 SD/HD .....from 159 HDs + Controllers...from 179  
A3000s .....from 499 GVP HD8 40/52 .....209/229  
CDTV .....179 XT/AT BBoard.....50/91  
A590 20/40MB .....129/159

OTHER ACCESSORIES - PLEASE ASK.

\*Acceptance of pre-V2 machines may be limited

COMPUTING  
ESTABLISHED 9 YEARS

10 MARKET PLACE ST ALBANS  
HERTS AL3 5DG TEL: (0727) 856005/841396  
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## A4000/30 & 40

**A4000/30:** AGA Chip Set + 68030 processor, 68882 25/50 MHz co-processor option, 256,000 colours from 16.6M, scan doubling for flicker free display, Mouse, Amiga 3.5"/1.76 MB 3.5" drive, Hard Drive as below, Amiga DOS 3.0 system and utilities, **Next day on-site warranty**  
**A4000/40:** As above, but featuring the blistering 68040 processor, with full floating point facilities **NOT EC version.** UK models with on-site warranty...**NOT imports!**

TRADE IN AVAILABLE

A4000/30

A4000/40

HD SIZE MB	1+1MB SUBTRACT £70	2+2MB STANDARD VERSION	2+4MB SUPER EXP. VERSION	2+4MB EXTRAS
80	WARNING - 1 + 1MB A4000s will not run most serious AGA s/w packages. If required, subtract £70 from 2 + 2MB prices	965	1889	Extra 2MB for 2+2 versions £99 + Extra 4MB for 2+4 versions £159 + Microvite Cables 1440 recommended £399.99 + Same day warranty £39.99, extra 2 yrs £99.99
120		1039	1915	
160		1079	1959	
240		1149	2139	
340		1219	2299	
540		1479	2459	

**A4000/30 CO-PROs**  
68882 25 MHz .....ADD £79  
68882 50MHz .....ADD £159  
Fitting FOC if purchasing A4000

## A500/600/CDTV

### STARTER PACK

A Must for new users!  
Microswitched joystick, 10 Blank discs, 80 capacity lockable disc box, mouse mat, dust cover, Virus Killer.

A500+ and A600s come complete with mouse, modulator to connect to TV, or monitor lead as required, all cables, manuals, operating discs and utilities

	INCLUDED AS STANDARD	PLUS ALONE	WARRANTY	EXTRAS
<b>A500+ 1MB</b>		179.99	12 months return to base	Extra 1MB £25
<b>A500+ CARTOON CLASSICS</b>	CAPTAIN PLANET, LEMMINGS, THE SIMPSONS, DPAINT III*	194.99	12 months return to base	Extra 1MB £25
<b>A600 SD 1MB</b>		174.99	12 months return to base	Extra 1MB £25
<b>A600 SD WILD, WEIRD AND WICKED</b>	SILLY PUTTY, F1 GRAND PRIX, PUSHOVER, DELUXE PAINT III*, 700 CLIP ART SET	194.99	12 months return to base	Extra 1MB £25
<b>A600 HD 20</b>		269.99	12 months return to base	Extra 1MB £25
<b>EPIC PACK PLUS</b>	EPIC, ROM, MYTH, TRIVIAL PURSUIT, AMIGA TEXT, DELUXE PAINT III*, 700 CLIP ART SET	319.99	12 months return to base	Extra 1MB £25
<b>A600 HD 80</b>		365.99	12 months return to base	Extra 1MB £25
<b>120</b>		415.99	12 months return to base	Extra 1MB £25
<b>210</b>		569.99	12 months return to base	Extra 1MB £25
<b>CDTV MULTI MEDIA</b>	AUDIO DISCS / CD PLAYER, KEY'S, FORVIE, MOUSE, REMOTE CONTROLLER, CADDY, WELCOME DISC, FISH DISC	229.99	12 months return to base	Extra 1MB £25
<b>CBM 1084 SD</b>	+ LEADS	178.99	1 year	Brickette PIP Monitor to TV Converter - £99
<b>CBM 1940</b>	LEADS. IDEAL FOR AGA	269.99	1 year	
<b>Philips 8833 II</b>	T & SWIVEL £10	209.99	1 year	
<b>Star LC100C</b>	TOP VALUE 9 PIN COLOUR PRINTER	149.99	1 year	
<b>Citizen 240C</b>	24PIN COLOUR	252.99	2 year	

Return to base HD versions are SD units fitted with top quality 3rd party drives and come with install disc + full documentation. \*DPIII needs 2MB for animation on HD models.

## NO OTHER DEALER CAN BEAT OUR CREDENTIALS

- Multi-million company with 9 years experience in Commodore product and here to stay
- Commodore trained staff are friendly and helpful and are parents, multimedia, educational, games, programming or technical specialists (usually more than one!)
- Open 9-6 pm Monday to Saturday and 10.00 am to 4.30 pm Sundays PLUS December late nights on Thursdays (St Albans only) for convenient shopping.
- Callers welcome for advice and demonstration at our 1600+ sq ft High St, Town Centre branches
- Same day despatch for most orders received by 5.30 pm; express am and Saturday services available
- Hardware carefully handled and delivered safely and reliably by caged, insured, top name courier service
- Pre-despatch testing on Amiga systems
- Free 30 day courier collection and delivery of NEW replacement (except product with on-site maintenance)
- Hotline support and in-house engineers
- Upgrade and trade in offers to keep you up to date
- Exceptional after sales service
- BFPD and export welcome

## NOT JUST ANOTHER MAIL ORDER COMPANY

For years a major player in Amiga Mail Order, Hobbyte also boast extensive expertise and experience in specification and support of multi-machine and specialist systems. Hobbyte have been recommended and trained by Commodore and successfully won major orders and support contracts from London Boroughs, MOD, educational establishments etc. We are pleased to be placed on tender lists. This expertise is available to all our customers.

## HOW TO USE THIS AD

Exclusively from Hobbyte, you can choose your own Amiga and software combination and still benefit from the huge savings only available from package deals. Want an A600 pack for small children? No problem! A professional pack for music or programming? It's up to you!

## WE WANT TO BEAT ALL PRICES! CALL US!!

## CD<sup>32</sup> CONSOLE SPECIAL

Choose any\* 3 CD discs (see software section) for **£59.90** \*up to £34.99 RRP each

### CD<sup>32</sup> SOFTWARE

Over 75 titles specially written for the CD<sup>32</sup> should be in stock (phone for list), inc. Syndicate, Zool 2, Jurassic Park, Chaos Engine, many of which include a full CD music track alongside the game. About half of existing CDTV titles are compatible. CD<sup>32</sup> will also play normal music CDs and CD+G discs

CD<sup>32</sup> Console (with Oscar AGA, Wing Commander, Dangerous Streets, Diggers + Joypad FREE)

**£279**  
CD<sup>32</sup> + FMV Card as above  
**PLUS FREE MUSIC VIDEO DISC**  
**£465**

CD<sup>32</sup> Standard warranty is 12 months return to base.  
12 months on-site warranty **£39.99**  
Extra 2yrs on-site warranty **£69.99**

### AVAILABLE NOW!

Full Motion Video module for CD<sup>32</sup> (with Free Music Video Disc) **£189.99**

### COMING SOON

Floppy drive, Keyboard, Mouse CD<sup>32</sup> for A1200

## A1200

1200 2MB	269
1200 + 20MB HD	379
1200 + 60MB HD	439
1200 + 80MB HD	469
1200 + 120MB HD	509
1200 + 207MB HD	549
Extra 4MB + clock fitted	ADD £200

\*\*\*CBM APPROVED HARD DRIVES

Full legal installation/utility disc and documentation and come with CBM on-site warranty service.

**DON'T FORGET YOUR STARTER PACK! ADD £15 (SEE VALUE PACKS BELOW)**

### SPECIAL

Citizen ABC 24 pin colour printer with sheetfeeder and Starter Pack. **ONLY £180**

## FREE WITH ALL 1200s NIGEL MANSELL AGA, TROLLS AGA AND COMPILATION PACK

4 (top games) OR DESKTOP DYNAMITE PACK

Wordsworth 2 AGA, Deluxe Paint 4 AGA, Oscar AGA + Dennis, Print Manager

**PLUS** 4 hot list titles **ADD £49** (1200s only)

## HOBBYTE VALUE PACKS

Hobbyte are famous for their packs, allowing you to choose what you want, whilst still benefitting from package deal savings. Remember, a bargain is only a bargain when you like what you get! So, if you aren't Wild, Weird or Wicked, Sleepwalker sends you to sleep, Space Ace leaves you feeling empty and Paratrooper does worse, if Basic basically isn't you, exercise your options and get real value for money from Hobbyte

### TRAMPY'S AND NODDY'S PACK

Fun and educational for 2 to 11 years (Some help may be required)

SPECIAL WITH AMIGA **£39**

ALONE **£59**

- Noddy's Playtime OR Big Adventure OR Merlins Maths
- 8 magical learning games at 3 levels, PLUS Junior Art pack, keyboard overlay and map
- 6 National Curriculum oriented games, stage 2, 7 to 11
- The Shoe People OR Fun School 2
- 6 games with Trampy and friends, 6 years and under.
- The "Fun School" suite have won every award going.
- 5/6 wonderful animated games. 3 to 11 years, specify age.
- Fun School 3 or 4 OR ADI Jr Reading OR Counting
- The loveable extra terrestrial entertains 4 - 7 year olds and helps towards achieving National Curriculum levels 1, 2 + 3
- Deluxe Paint II + 700 Clip Art pics
- Pics inc. children, Fairytale + Legend characters, Sport, Cartoons, etc.
- Hobbyte Primary Educational PD Pack
- Containing 10 fun while you learn games
- Hobbyte 30 Easy Children's Games Pack
- Simple games, or those with very easy levels. Even the youngest will be able to use some of these

### SERIOUS USER'S PACK

Interested in music, programming and graphics? Then this pack is for you!

SPECIAL WITH AMIGA **£39**

ALONE **£49**

- Easy Amos
- THE programming language. Wonderful manual is simple and entertaining - ideal for complete novices
- OR AMOS Professional ADD £10 for this option
- 97% AF rating - the second highest rating EVER given. Learn to professionally create your own games, utilities. Loads of sample programs included
- Hobbyte AMOS PD Greats
- Dozens of utilities, Protracker music modules, example programmes that no AMOS programmer would be without.
- Deluxe Paint III, plus 700 Clip Art pics
- Create your own designs to incorporate into your AMOS programs
- MIDI Recording Studio & MIDI Interface
- If you have a MIDI instrument, this is everything you need to compose and edit your music
- OR AmigaVision
- Powerful presentation and production tool

STOP PRESS!

DESKTOP DYNAMITE AGA PACK (SEE 1200 BOX) **£79 ALONE**

### STARTER PACK

A must for new users! All you need in one value pack

WITH AMIGA **£15**

ALONE **£25**

- 10 blank discs
- Make working copies of Workbench and other original applications discs as soon as you get them
- Virus Killer
- Check discs regularly, especially if sharing with friends
- Mouse mat
- Helps prevent dirt/dust collecting on mouse contacts
- Plus Microswitched Joystick, 80 cap. lockable disc box, Dust Cover

### HOT BUG GAMES PACK

The top-selling Hobbyte Hot Lot pack now includes the ultimate joystick!!!

WITH AMIGA **£44**

ALONE **£59**

- "THE BUG"
- The only joystick ever to be given a Gold rating 92% AF, positive single-handed action, small and lovely!
- 10 "Hot List" Games
- See listing to the right for current HOT LIST, or phone for latest changes. Children's games available.
- 80 Prog. Hobbyte PD Greats Pack II 10 blank discs, mouse mat, 80 capacity lockable disc box, plus dust cover
- Includes top games like Battlecars, Star Trek, Computer Conflict, Megaball, dozens of arcade classics, board classics and 'shoot-em-ups', Utilities, Word Processor, Spreadsheet, Database + Desktop Publisher and the ultimate virus killers - a must for every Amiga owner!

### HOME APPLICATION PACK

Perfect for all Home Office needs

SPECIAL WITH AMIGA **£39**

ALONE **£55**

- Virus Killer Disk
- 80 Prog. Hobbyte PD Greats Pack - see 'Hottest Lot Pack'
- The Works Platinum Deluxe Paint III\* with animation + 700 Clip Art pics
- Digit Home Accounts
- Any Two Hot List Titles
- WP with UK spell check, Thesaurus spreadsheet, 'Sidesways' utility, database, graphics + comms module
- Keep track of credit card and bank accounts, budgets, etc

### THE HOT LIST GREAT individually packaged games, BETTER THAN THE REST!!

(previous RRP's up to £39.99 each)

**ANY 10 £29.99**

Or see packs across

Thunderbirds (7yrs+) £ - 92% AF

Silly Putty - 90%+ lots of maps

Elit/Toki/Puzznik (counts as 2) £

Paperboy II £

Die Hard 2

Colossus Chess @

Challenge Golf

Battleships classic board game

Graeme Souness Soccer

Neighbours

Frankenstein £ @

Captain Planet

Silkworm Helicopter @ 93% CU

Tag Team Wrestling

Edd the Duck £

Stack Up £

Lemmings 92% AF

Round the Bend £

Fist Fighter

Sporting Triangles

World Cricket

Bart Simpson

Spiderman/Cptn America £ @

Archie

Xenon - C+VG Game of the Month

Blade Warrior - A Power, AF, AAction

superb reviews

**AWARD WINNERS**

Space Ace, Kick Off, Pipeman, Populous

(counts as 2)

£ PARTICULARLY SUITABLE FOR CHILDREN (MAY NEED HELP) @ NOT A1200 COMPATIBLE TITLES MAY VARY

## MONITORS/ACCESSORIES

CBM 1084SD 1084/1085 + leads + 2 games	194.90
Tilt + swivel stand for any 14" monitor	12.99
CBM 1942 dual sync. 28 dpi AGA monitor + speakers	339.90
<b>MICROVITEC CUB-SCAN 1440 14" 28dp for 1200/4000, in-finitely variable scan rates between 1.5KHz (default on boot-up) and 40 KHz for all AGA modes in this range. With tilt and swivel stand. "CUBA BEST BUY"...</b>	
Microvitec Cub-scan 28dp for 1200/4000 as above, but 20"	1039.99
Microvitec Cub-scan 1782, 17", 27dp, 29-82 KHz horiz. scan	889.99
Adaptor for A1200/Microvitec	29.99
CBM 1936 Hi-res SVGA 28dp inc. tilt + swivel	259.99
Panasonic 1537 31-62kHz 14"	519.90
Philips Brilliance 2110 21"	1790.90
Zy-Fi Speakers	37.90
Zy-Fi Pro Speakers	57.90

## FLOPPY DRIVES

Zydec 3.5 external drive, daisy-chain + on/off	51.50
Cumana CAX 354 3.5 external drive, beige	56.50
PC 8808 MK II with anti-disk + Blitz back up and virus protector	75.95
Dual drive as PC 8808	124.99
High density 1.76MB ext. drive for any Amiga (WB 2)	98.50
High density 1.76MB ext. drive for any Amiga (WB 2) + 10 HD Discs	104.95
Power HD internal floppy for 1500/2/3 4000	94.90
Power HD internal floppy for 500/600/1200	94.90
AS90 replacement internal floppy	54.99
A600/1200 replacement internal floppy	69.99

## HARD DRIVES/ACCELERATORS

<b>1500/2000</b>	
GVP HCB/11 40MB	196.99
GVP HCB/11 80MB	289.90
GVP HCB/11 120MB	374.90
GVP HCB/11 213MB	479.90
G Force 030 40MHz 4MB	564.99
G Force 040 33MHz 4MB	999.99
Extra 2MB for above	POA
Trifecta SCSI 80MB HD	234.90
<b>3000/4000</b>	
Fastlane SCSI II controller for 4000	299.90
DKB 40981 SCSI I	269.99
Syquest 44MB internal	289.90
Syquest 88MB internal	359.90
Syquest 44MB cartridge	69.50
Syquest 88MB cartridge	99.50
A4000 130MB	159.99
A4000 170MB	169.99
A4000 214MB	199.99
A4000 260MB	229.99
A4000 340MB	329.99
A4000 450MB	439.99
A4000 525MB	599.99
Self fitting - fitting by our engineers ADD	£15
<b>500</b>	
AS30 1MB 40MB	392.00
AS30 1MB 80MB	489.00
AS30 1MB 120MB	589.99
AS30 1MB 213MB	693.99
AS30 48882	218.99
GVP HDB 42MB	194.90
GVP HDB 80MB	296.99
GVP HDB 120MB	329.99
GVP HDB 270MB	389.90
<b>20MB HD REPAIRS AVAILABLE FROM £149</b>	
AS90 20MB	139.90
AS500 internal 20MB HD	184.99
<b>AS500 INTERNAL 60MB HD</b>	
AS500 Internal 60MB HD	249.99
AS500 Internal 80MB HD	279.99
AS500 Internal 120MB HD	339.99
Trifecta SCSI 80MB HD	289.99
AS70 for 2.04 1MB 500 + FREE Fred Fish & Hutchinsons Encyclopaedia	98.90
<b>A600/1200</b>	
GVP 85 MB HD 600/1200 EH	274.99
GVP 1230 030 accel for 1200	239.90
GVP 1230/40MHz/4MB 68882	479.99
Co-Pro for 1200	479.99
M1230 1 40MHz	499.99
M1230 1 40MHz 4MB	499.99
M1230 1 50MHz 4MB + MNU	519.99
Microbotics VXL30 25MHz	219.99
VXL 30 40MHz	339.99
2MB Burst RAM for above	179.99
<b>A600/1200 HD UPGRADES</b>	
20MB	85
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# Cracking

## Mark Smiddy continues his discussion of the AmigaDOS screen editor, ED, and forges the links between Workbench and AmigaDOS

Last month I explained how the ED screen editor works and gave you some simple examples to try out. Now it's time to get a little more adventurous. First of all, let's consider the more advanced ED that comes with Workbench 2.

This has a special "command file" which it executes automatically every time the program is started. The command file, called **ED-STARTUP**, is loaded from the

current **S:** assignment and usually looks something like this (only the first five lines are shown):

```
si 1 2 "Open... ESCop" "op ?"
/File: "/"
si 2 4
si 3 2 "Save ESCsa" "sa"
si 4 2 "Save As... ESCsa" "sa"
? /Save As: "/"
si 5 4
...
em
```

### BEGINNERS BEGINNERS START HERE BEGINNERS

**What is all this AmigaDOS stuff anyway?**

AmigaDOS provides access to files and programs that would not normally be usable from the Workbench. It does this by accepting commands entered from a keyboard rather than a mouse. All disk-based operations performed by Workbench are done by Workbench making use of AmigaDOS's facilities, and therefore Workbench is a more protected and user-friendly environment. Until Workbench 2 came along many operations were impossible without reverting to AmigaDOS at some stage.

Although Workbench 2 and 3 have improved matters, a great deal of software simply will not run from Workbench and has to be accessed from the native AmigaDOS environment. There are a number of reasons for this, not least that it is easier to develop an application for AmigaDOS only. AmigaDOS has, and always will have, a distinct advantage: you can specify any supported option for any program every time it is "launched".

**Do I need to know AmigaDOS?**

No one "needs" to know AmigaDOS, but every Amiga user should know that it exists and have a basic understanding of it. The subject is so huge that several voluminous books have been written about it, so by that yardstick, it must be hellishly complex.

AmigaDOS is what you make of it. Although there are well over 100 commands, most users will manage perfectly well with a basic understanding of a core consisting of less than 20. If that sounds a lot, count how many menu options are available from Workbench. Few people have the vocabulary of William Shakespeare, yet most can write a formal letter.

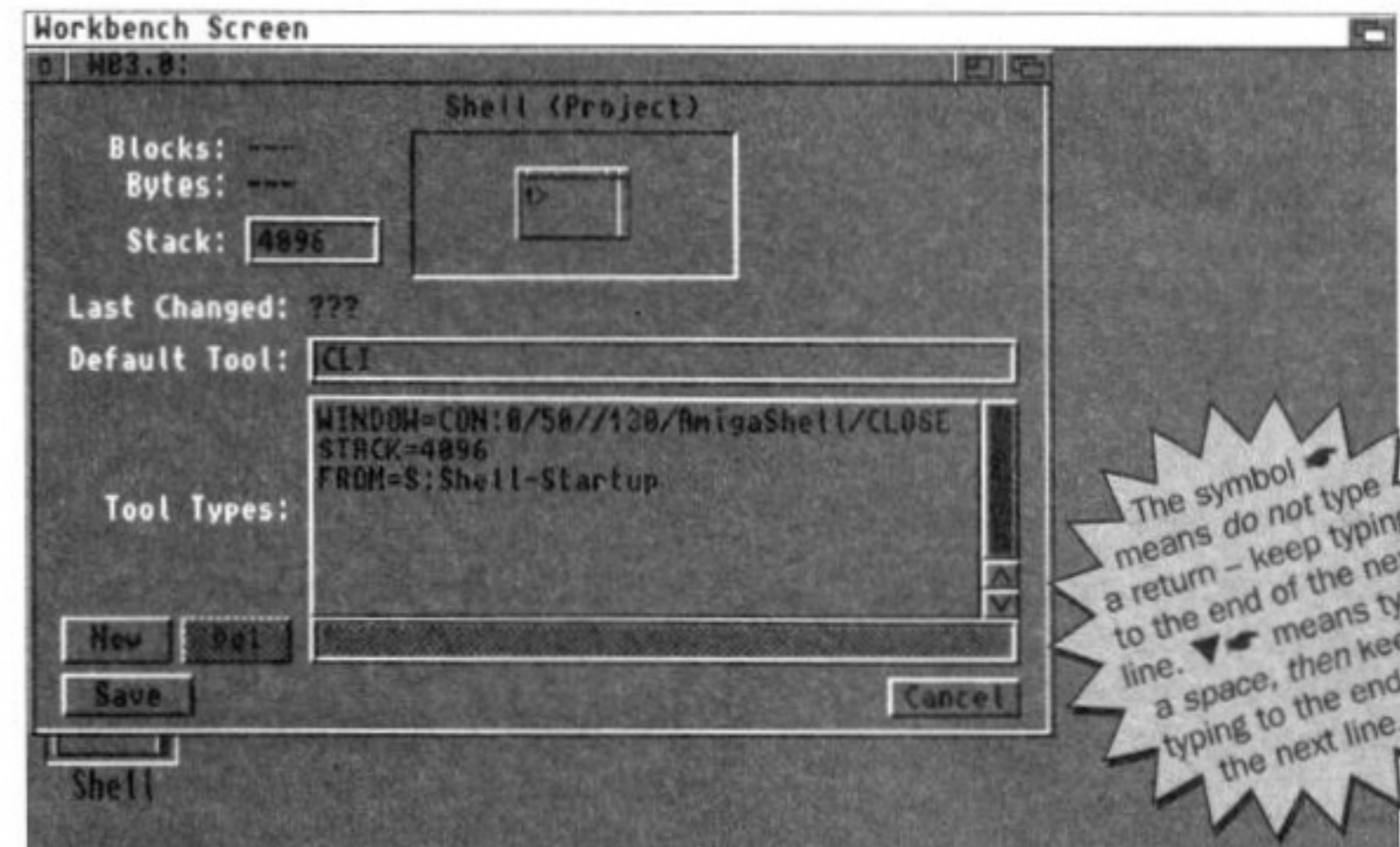
**I can't even set my video's timer, what chance do I have with AmigaDOS?**

This problem is one of perception. Who said it was easy to set the timer on a video anyway? We naturally assume that because a video is a consumer item it must be easy to use – nothing is further from the truth. When setting a video we have to juggle with many variables such as time, program length and channel – often via a multi-function control pad. When you use AmigaDOS, you communicate with the machine by giving it written instructions. It looks harder than it really is.

**Do I need to be a programmer to use AmigaDOS?**

AmigaDOS is as alien to programmers as it is to everyday users since it is a "language" in its own right. Many C programmers stumble with AmigaDOS just as AmigaDOS programmers flounder with C. Although programmers will find it easier to pick up, there is nothing stop the average user getting some hands-on experience.

# the Shell



Using the Workbench Information option for a "project" file – note the Default Tool is currently CLI. Any TOOLTYPES should be deleted.

Try loading it now:

```
1>ED S:ED-Startup
```

It looks like gibberish when you see it for the first time. And to make matters worse, this facility is not documented in the official AmigaDOS 2 manual either. A single command, **SI**, does most of the work. It's function is to configure ED's menus using the following syntax:

```
SI <sequence number> <type>
["text"] ["command"]
```

**Sequence number** – This indicates the position of the text within the menu, where 1 is the first entry (Project) counting down and right to **Commands...Redisplay**, although this last entry does not appear in the default definition.

**Type** – This numerical argument determines what the text will do where: 0 = last menu item; 1 = menu title; 2 = menu item; 3 = menu sub-item; 4 = horizontal bar. In AmigaDOS 2, option 3 is a delimiter bar and option 4 is not supported. Also, option 3 in AmigaDOS 3 does not seem to work.

**Text** – Most commands will require some explanatory text. Quotes should surround the text and it must be kept short since the width of the menu is determined by the longest menu item – it is best to determine this from any existing items. The escape command may also be included here to remind you of the keyboard shortcut.

**Command** – The command itself – contained in quotes. Although there is no limit to their length, ED commands tend to be on the short side. When ED reads and executes a menu item, the **Escape** key is simulated by the program and is not

required as part of the command.

Two formats are available for some commands – **execute** and **"query"** **execute**. The **Save** command shows this clearly:

```
si 3 2 "Save ESCsa" "sa"
```

Here the command **sa** tells ED to save the current file immediately, as if you had entered **<ESC>SA**. In the second example below, ED can request input, viz:

```
si 4 2 "Save As... ESCsa" "sa"
? /Write File As: "/"
```

This command is akin to **<ESC>SA/FileName/** but in this case ED asks for a filename. This is triggered by the use of the query operator placed after the command. A prompt, which is the text delimited by slashes above, appears at the bottom of the window.

While the **“:”** part is not required as part of the prompt, it aids readability. For example, if the colon is left out...

```
si 4 2 "Save As... ESCsa" "sa"
? /Write File As: "/"
```

...the prompt looks like this after the user has entered a file name:

```
Write File AsDF0:S/MyFile
```

### A WORKBENCHED EXAMPLE

AmigaDOS is closer to Workbench than you may think. This tutorial is based on the real-life experience of a beginner who had managed to extract a game from a magazine coverdisk but could not get it to appear on the Workbench. The scenario goes something like this:

Our beginner is using Workbench 1.3 on a 512K Amiga A500 with two drives – a typical home system. He has managed to extract the software,

which we'll call **Game**, to the RAM Disk, and has verified its existence by using a file requester from another program. The problem he now faces is how to get **Game** running – first from AmigaDOS and eventually from Workbench. The machine has been booted from a magazine coverdisk and a minimal Shell is available.

The first command he might try is **DIR**. This will list the disk's contents. The software he wants is in the RAM Disk so we could enter a line like this:

```
1>DIR RAM:
Game Game.ReadMe
```

Okay so far. Now let's see if the application runs. First, we'll make the RAM disk the current directory and then run the software:.

```
1>CD RAM:
1>GAME
Unable to load game: Error code 103
```

A message like this does not look promising. Surely AmigaDOS could be more helpful than that? On most systems, a similar malady would produce a report along these lines:

```
1>GAME
Unable to load game: Insufficient free store
```

This error, which is a textual explanation of "**Error code 103**" above, simply means there is not enough memory to run the program. This is not altogether surprising since the application is stored in the RAM Disk.

For an explanation, we have to look at the disk that the system was booted from, namely a magazine coverdisk. Such disks are crammed with so much information there is barely enough room for even a small

subset of AmigaDOS commands. When AmigaDOS generates an error message, it looks in the current **C:** assignment – the C directory of the boot disk – for a program called **FAULT**. This program translates the error codes into something more intelligible and, if the command is missing, AmigaDOS reports the raw error message. This shouldn't occur on Workbench 2 and 3 machines because the command is internal (in ROM).

An ideal solution would be to re-boot the system with a proper Workbench disk and start again. However, that might cause problems with the de-archiver so we're stuck with things as they are.

## INDIRECT AMIGADOS

Until now, we have been entering AmigaDOS commands and assuming they would be available. This last example proves that, sadly, this is not always the case and you might just find yourself faced with such a predicament some day. But there is an answer.

When using AmigaDOS, we often talk of "paths". Paths (the position an object is stored on the disk) can be manually defined, as when you come to save a file from within an application. Paths can also be automatically defined, such as in the case of commands located in the search path. The search path is a list of directories AmigaDOS searches every time you type in a command. Most commands are located in C, which is therefore the first directory in the search path that AmigaDOS looks in for the command in question.

If the command **FAULT** is entered using the current setup, it will return:

```
1>FAULT 103
Unknown command: FAULT
```

However, when we give the name of a command, we can precede its name with a path, and therein lies the solution – this forces AmigaDOS to look for the command along the path we have specified. Now, let's assume we have put a Workbench disk in the external drive, DF1:. We can then help AmigaDOS locate the **FAULT** command like this:

```
1>DF1:C/FAULT 103
Fault 103:Insufficient free store
```

You can try this for yourself using a spare copy of your Workbench disk (if you don't have one, make one now) and popping it into any drive. It doesn't matter if you remove your current boot disk – AmigaDOS will not ask for it back because you have included a search path as part of the command name.

The next stage is to get the game on to a blank disk. We can't do this from Workbench because it does

not have an icon and Workbench 1.3 did not have the ability to display icon-less files. With a blank disk in the external drive, the command is quite simply:

```
1>COPY RAM:Game TO DF1:
Unknown command: COPY
```

Oops! If everything went smoothly, I'd be out of a job. This is a deliberate mistake which is quite common with coverdisks and disks sourced from other places. It happens because there is simply not enough room to include all the commands. Even **COPY** sometimes gets the chop.

This problem is fairly easy to solve, though – use the technique outlined above for **FAULT**. We'll put the Workbench disk in the internal drive and the blank in the external drive to give us:

```
1>DF0:C/COPY RAM:Game TO DF1:
In order to make things a bit more interesting, just think for a moment: what would happen if the example machine only had a single disk drive? What would happen if we used a command like this?
```

```
1>DF0:C/COPY RAM:Game TO DF0:
Which disk is in drive DF0:? If the Workbench disk is present, the file gets copied to it; if the blank disk is there instead, the command cannot be found. Either way, this is clearly not the solution. Here are two possible alternatives:
```

The most reliable method is to change the destination disk's name (**DF0:**) with the name of the disk concerned – its volume name. You can get this from the Workbench. If the disk is newly formatted, it will be called **Empty** and we'll assume that this is the case here. The modified command line now looks like this:

```
1>DF0:C/COPY RAM:Game TO Empty:
This solution is not perfect, as it assumes you have started with the Workbench disk in DF0:. A better, although more long-winded, method is to use the volume name of the Workbench disk too, viz:
```

```
1>Workbench1.3:C/COPY RAM:Game TO Empty:
```

## USING RESIDENT

The solution outlined above will work in a given situation for any Workbench (even 1.0) but most of you will be using at least Workbench 1.3. If your Workbench is an earlier version, you should try to obtain an updated copy as soon as possible because the whole system is a lot better. One of the new commands introduced in Workbench 1.3 is **RESIDENT**. This makes a single copy of any command in memory available for any number of multi-tasking processes. On a more down-to-earth

level, it solves this problem rather nicely:

```
1>DF0:C/RESIDENT DF0:C/COPY
```

Now that **COPY** is resident in RAM, we can use a command knowing that the right disk will be affected. For instance, assuming the destination disk is in the internal drive:

```
1>COPY RAM:Game TO DF0:
```

This may seem a little long-winded, but remember that the **RESIDENT** command is fire-and-forget – **COPY** only needs to be made resident once. This method is, therefore, particularly suitable if you are copying a lot of single files.

## ICONIC CREATION

You may recall that the object of this exercise is to copy an arbitrary application to a disk and give it an icon. As the situation stands, your machine could be re-booted with a real Workbench disk and the application started directly from AmigaDOS with a command like this:

```
1>DF0:Game
```

This is a little fussy, so let's give it an icon. Assuming the application can be run directly from the Workbench (not everything can), we need to give it the correct type of icon – a tool. Designing an icon from scratch is quite possible but outside the realms of AmigaDOS at this stage, so we'll take the *Blue Peter* variety. The Workbench disks are full of "tools" and, assuming you've got the Workbench 1.3 disk set, the **MORE** tool is a good place to start. Any "tool" icon can be used; you can verify you've chosen a "tool" (as opposed to a "project") by checking the icon's type from the Workbench's icon **INFORMATION** window.

The obvious solution, once the correct type has been found, would be to simply drag it to the appropriate disk and give it the right name. Unfortunately, this will not work, because when Workbench copies an icon it copies the file (data or application) with it. This is natural enough, but it prevents the obvious method because it is not possible to rename something when an object of the same name exists. We have to copy just the icon file instead (icons are the files ending in **.INFO**). To keep things a little simpler, we'll make **COPY** resident and work from the internal drive:

```
1>RESIDENT C:COPY
```

Now **MORE**'s "icon" – often called a dot-info file – is copied into a temporary buffer area: the RAM disk. (On a dual drive system it could have been copied to the destination directly, by replacing **RAM:** with **DF1:.**)

## JARGON BUSTING

**Archive** – a collection of programs and data all kept together in a handy wrapper called an archive. Most archiving programs also "stuff" or "crunch" the data using one of several data compression methods. The net result is you get a lot more data on a single disk than is possible by normal means. On the downside though, the process of archiving and de-archiving is slow and can be fiddly.

**Launch** – to start a program from the AmigaDOS Shell by entering its name or double-clicking its icon in the Workbench. Launch is a fancy name for "start".

1>COPY SYS:Utilities/☛  
MORE.INFO TO RAM:

Finally the icon is moved to its permanent resting place on the blank disk. This example uses the volume name of an empty disk as described earlier:

1>COPY RAM:MORE.INFO TO Empty:

All that remains now is to change the name of the dot-info file to the name of the application concerned. This is achieved using **RENAME** like this:

1>RENAME Empty:MORE.INFO AS ☛▼  
Empty:Game.INFO

At this stage the disk (**Empty**) can be opened on the Workbench and the program launched by double-clicking the icon in the usual manner. If the disk is already open, it will have to be closed and re-opened to see the icon. Also, the physical position of the icon on the disk may be unexpected. Workbench usually modifies the position of icons when they are copied, but AmigaDOS cannot do this (as far as AmigaDOS is concerned an icon is just another file). You can fix this yourself using the Workbench's **Clean Up** and **Snapshot** functions.

## THE ROAD TO HELL

If it were all that easy everyone would do it. Unfortunately, the vast majority of programs that need to be executed from the Shell cannot be launched from Workbench using this method. All that explanation was not without reason, though, because there is a solution, albeit a slightly more complex one.

Workbench applications are specifically written to work from Workbench and AmigaDOS programs are not. Despite the more technical considerations, AmigaDOS programs will assume a virtual terminal is available for their use. Normally this is the Shell (or CLI) window, but Workbench does not open a console window for them. For this reason a special program is supplied with Workbench revisions from 1.3 onwards. **ICONX** is a command which bridges the final gap between a raw AmigaDOS program and the Workbench.

Configuring a program to use **ICONX** is very similar to the method described above, but there are a few more steps involved. The most important difference is that **ICONX** uses Project and not Tool icons. Therefore, rather than looking for a tool, you have to locate a project instead.

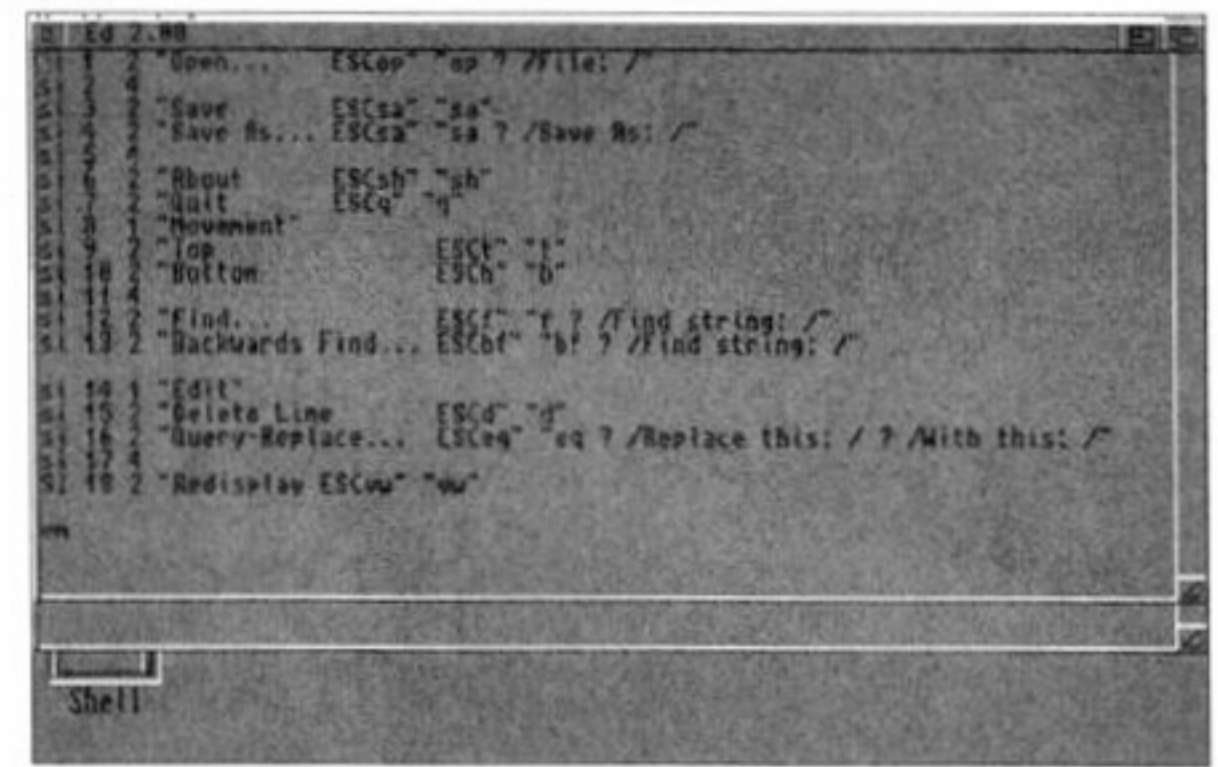
The most accessible one of these is the Shell icon, which is unusual in itself because no real project file is attached to it. You can copy the Shell icon on to the destination disk by dragging it with Workbench and using

AmigaDOS at the renaming stage. If you have tried the other method first though, be careful not to delete the "tool" icon from Workbench or the application will go with it. Use AmigaDOS instead. For instance:

1>DELETE Empty:Game.INFO  
1>RENAME Empty:Shell.INFO AS ☛▼  
Empty:RunGame.INFO

That bit is painless enough, but now you have to create a simple script file to "run" the application using **ED**. A script is merely a sequence of commands that mimics what you would type from the Shell – and for a simple application such as this one it would contain the single line:

GAME



Working with ED's 2.0's menu definition file.

We can create the file using **ED** as follows (note it *must* have the same name as the icon you have created, but without the dot-info):

1>ED Empty:RunGame

Finally, we have to change the default tool in the Project's icon to **ICONX**. This is done from the **Info** screen on Workbench. Select the text gadget which contains **SYS:System/CLI**, replace it with **C:ICONX** and click **SAVE**.

**ICONX** will open a default console window for the program when it is started and close it when it exits, without you having to lift a finger. Simple it isn't, but very rewarding when you see the results for the first time.

AS

# ED COMMANDS (ALL VERSIONS)

## Movement Functions

<Ctrl>-D: Move up one page.  
<Ctrl>-E: Go to top or bottom of page.  
<Ctrl>-I: Cursor to next tab stop.  
<Ctrl>-R: Cursor back one word.  
<Ctrl>-T: Cursor forward one word.  
<Ctrl>-U: Move down one page.  
<Esc>-B: Bottom. Move directly to the end of the file.  
<Esc>-J: Join. Merge the current line with the line below it.  
<Esc>-S\*: Split. Break the current line at the cursor.  
<Esc>-T: Top. Go to the top of the file.  
<Esc>-CE\*: Cursor to End. Move the cursor to end of line.  
<Esc>-CL\*: Cursor Left. Move the cursor left one character.  
<Esc>-CR\*: Cursor Right. Move cursor right one character.  
<Esc>-CS\*: Cursor to Start. Move cursor to start of line.  
<Esc>-M[n]: Move. Go to line [n].  
<Esc>-N\*: Next. Go to start of next line.  
<Esc>-P\*: Previous. Go to the start of the preceding line.

## Layout

<Esc>-EX: Extend. Remove the limit on the right margin.  
<Esc>-SR[n]: Set Right. Set right margin (word wrap) at [n] characters.  
<Esc>-SL[n]: Set Left. Set the left margin at [n] characters.

<Esc>-ST[n]: Set Tabs. Position phoney tab stops at [n] characters apart.

## Editing Functions

**Backspace:** Delete the character immediately behind the cursor.  
**DEL:** Delete character under cursor.  
<Ctrl>-A: Insert a new line.  
<Ctrl>-B: Delete a single line at cursor.  
<Ctrl>-G: Repeat last escape command.  
<Ctrl>-O: Delete the word to the right of the cursor.  
<Ctrl>-Y: Delete from cursor to end of current line.  
<Esc>-A/text\*: After. Insert "text" after the cursor position.  
<Esc>-D\*: Delete. Remove the current line.  
<Esc>-DC\*: Delete at Cursor. (As DEL.)  
<Esc>-I/text\*: Insert "text" at the cursor.

## Block Commands

<Esc>-BE: Block End. Mark the end of a text block.  
<Esc>-BS: Block Start. Mark the first line in a block.  
<Esc>-DB: Delete Block. Delete the currently marked block.  
<Esc>-IB: Insert Block. Copy the currently marked block to the current cursor position.  
<Esc>-SB: Show Block. Position the current block at the start of the window.  
<Esc>-WB/file: Write Block. Save the current block to file.

## Search and Replace

<Esc>-BF/text: Backwards find. Search for text backwards in file.  
<Esc>-E:/ab/cd: Replace one instance of "ab" with "cd".  
<Esc>-EQ:/a/b: As <Esc>-E with confirmation.  
<Esc>-F/text: Find. Locate the next instance of "text".  
<Esc>-LC: Letter Case. Make searches sensitive to case. In other words, "ABC" <=> "abc".  
<Esc>-UC: Ignore Case. Make searches case independent. So now, "ABC" = "abc".

## File Commands

<Esc>-IF/name: Insert File. Insert text from the file "name". Full path may also be included.  
<Esc>-Q: Quit. Leave ED and return to caller without saving.  
<Esc>-S: Save. Save all current file and continue editing.  
<Esc>-SA/name: Save As. Save current file on disc as "name".  
<Esc>-U: Undo. Revert back to the last version of the line after editing. Note that this does not undo deleted lines or blocks!  
<Esc>-X: Exit. Save current file, quit ED and return to caller.

\* These commands are intended for ED's macro language although they can be executed directly.

# Educating Archie

**Dave Winder's voyage of discovery through the Internet last year inspired readers to request a more detailed probe into its innermost regions. This month Archie comes under his scrutiny.**

**T**he name *Archie* is a cunningly clever derivation of the word 'archive' and entirely apt, because searching through archives is what *Archie* has been designed to do.

Developed at the McGill University School of Computer Science in Montreal, Canada, *Archie* enables users to find any file stored in any public archive site on the Internet.

Think about the number of files that are stored on your hard disk, then consider the number of files that may be stored on an Internet site's computers. Now multiply that already large figure by the number of public access Internet archive sites, and then you'll begin to get an idea of just how difficult it can be to find the file you want. *Archie's* database contains information on around 1,000 public access sites — that's 1.5 Million files or over 100 Gigabytes of information!

You can log into *Archie* in three different ways. The easiest method is to access a service that offers a client program. Most of the services which offer Internet access should be able to help you here (I use the CIX Internet Gateway).

Secondly, you can telnet to an *Archie* site such as **archie.mcgill.ca** which will connect you directly to the system. If asked for a login name, just type **archie**.

Finally, you can send a request for information by EMail to **archie@quiche.cs.mcgill.ca**. Leave the subject line blank. In the message just type: **prog <filename>**. If you want to locate several files, put them all on the same line in the format: **prog <filename 1> <filename 2>**. Within a few hours you should receive a reply in the form of a list of

sites holding your chosen file.

Whichever method you use to connect to *Archie*, you will get a list of all the public access Internet sites which hold the file you entered. You can get hold of them by using the File Transfer Protocol (see Jargon Busting). There are public access *Archie* sites all over the world. In the UK you might like to try **archie.doc.ic.ac.uk**.

## ARCHIE TUTORIAL

Once connected to ARCHIE, you have a number of command options, the most common and useful of which are described here:

**Help** — the help command is probably the most useful as it lists all valid commands.

**List** — the list command shows all the current Internet sites stored in the *Archie* database and includes reports on when the information on those sites was last updated. You can limit the information to a few specific sites.

**Mail** — this is used to send the output of the last command issued to a specified address.

**Prog** — this searches the *Archie* database for files matching the given pattern as specified in the command argument. The resulting list supplies information such as the names of sites holding the file, the size of matching files and when they were last updated.

NB. *Archie* does not accept DOS or UNIX wildcards

**Whatis** — this searches a software description database containing the names and short descriptions of software packages and documents stored on the Internet. It will search for the substring given in the argument (ignoring case) and return a list of all files which contain that substring in the description held.

You can customise the way *Archie* looks for files and reports the results to suit your needs. This is accomplished by the use of variables. The variables listed below can be put

into action by using the **set** command, and their values undone by using the **unset** command. Variables come in three different flavours, and include:

**Boolean** — these variables can be simply set or unset as desired.

**Pager** — this filters all result output through the pager, so you don't get text spilling onto more than one screen at a time.

**status** — this variable displays a status line during a database search which gives details of the number of matches made and a percentage progress report on the amount of the database searched so far.

**Numeric** — these variables are an integer within a defined range.

**autologout** — this sets the number of minutes of inactivity you are allowed before you are automatically logged out. The range is between one and 300 with the default setting being 15 minutes.

**maxhits** — this variable restricts the amount of matches in the database search to a specified number. *Archie* defaults to a maxhits value of 1000 which means it will attempt to find up to 1000 matches to your request. This can mean it takes a long time to perform a complete search. Reset the maxhits variable to a smaller figure if you want faster searches.

**String** — these variables consist of a string of characters.

**mailto** — this lets you use the mail command without arguments and ensures that all output is sent to the address specified in the string variable. Multiple addresses can be specified by using a comma separated string with no spaces.

**search** — the search variable defines what type of search is executed when using the prog command. There are a number of values which can be used and they are listed below:

**exact** — this is the fastest search method. It looks for an exact and case specific match.

**regex** — this is a default search method which allows the use of regular expressions. These provide sophisticated pattern matching when searching a database but can be complicated to understand. I suggest that you don't use it unless you are familiar with the way regular

expressions work.

**sub** — this allows a search for a match on a substring without allowing for case. For example, if I specified a search pattern of war, it would match with war, dwarf, Swarfega and Warrington.

**subcase** — this has the same effect as the sub value, but is case specific.

**sortby** — this variable defines the order in which the output of a search is listed. There are five different sorting options:

**none** — not sorted at all. This is the default.

**filename** — sort by filename.

**hostname** — sort by name of host site.

**size** — sort by file size (largest first)

**time** — sort by update time (most recent first).

All the above options, apart from the first, may have the order reversed by using the letter **r** as a prefix. So, to have all files sorted by size with smallest files first, you would use **rsiz** instead of **size**.

**term** — this variable sets the type of terminal in use. The information is used by the pager (this is vital to the way in which text is displayed on your screen). The number of rows and columns can be set as can the terminal type.

AS

```
archie> prog gothic
# Search type: sub
# Your queue position: 2
# Estimated time for completion: 02:19
Working...
Host nic.switch.ch (130.39.1.40)
Last updated 04:38 23 Nov 1993
  LOGDIR /pub/comp/ucenet/comp.sources.misc
  512 bytes 05:37 15 Nov 1993 gothic
Host ftp.informatik.uni-muenchen.de (131.159.0.198)
Last updated 01:47 23 Nov 1993
  LOGDIR /pub/comp/ucenet/comp.sources.misc
  512 bytes 12:43 28 Apr 1993 gothic
Host ftp.informatik.uni-stuttgart.de (129.69.211.2)
Last updated 23:42 22 Nov 1993
  LOGDIR /pub/comp/ucenet/comp.sources.misc
  512 bytes 13:41 14 Oct 1993 gothic
Host ftp.uni-paderborn.de (131.234.2.32)
```

*Archie is extremely useful for searching through the huge number of files stored on the Internet.*

## JARGON BUSTING

**Internet** — a gigantic network of computers which are connected around the world.

**Client** — this is a relatively simple program that enables you to use a more complicated server program without having to worry about many of the network details and commands.

**FTP** — the File Transfer Protocol allows files to be downloaded from an Internet site to your computer.

**String** — a list of characters.

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# Noddy's excellent adventure

**Wilf Rees**  
**reluctantly joins**  
**Noddy on a Big**  
**Adventure and**  
**loves every**  
**minute of it.**

**N**oddy and his odd mate, Big Ears, have held little interest for me since I made the move into long trousers, so I have to admit that I was not looking forward to spending an hour or so familiarising myself with *Noddy's Big Adventure*, the latest offering from the Jumping Bean Company.

I was happily surprised, therefore, to discover that Noddy is one of the best examples of children's software I have ever clapped eyes on. The sheer size and content of this package is astounding, and guaranteed to keep even the most disaffected youngster occupied for hours.

## GOODIES GALORE

The Noddy package consists of no fewer than 13 different programs arranged on four disks. Clearly, a lot of planning and preparation has gone into this package. All the programs are interlinked and designed to be relevant to Key Stage 1 of the National Curriculum.

Insertion of disk one provides a colourful loader screen, accompanied by some lively Toytown music. Eventually a menu screen appears offering three levels of difficulty. These are amusingly

presented as divers on diving boards at three different heights. Once a level has been chosen, the corresponding diver plunges into the water. Next, you are presented with five icons. The first is a picture of Noddy sitting in his car. This icon loads The Driving Game which is central to the whole suite. It allows you to steer Noddy around a complex map of North East Toytown. Control is easy, using the cursor keys or a joystick, and dotted all over the map are all manner of features. Many of Noddy's friends appear at the roadside, waving.

Some are just being friendly but others want a lift and Noddy is obliged to stop and pick them up – he earns sixpence with every lift. There are country roads, which you can take as short-cuts. But beware, they contain magic tunnels which have a nasty habit of propelling Noddy to an entirely different location on the map. Amusing little animated events occur everywhere as Noddy drives recklessly around the town. A continual rumble from the speakers tells you that the little yellow taxi is still running and additional sound and visual effects can be called by pressing allocated keys. Noddy can wave, nod or sound his horn, as well as rev the engine mercilessly and screech his brakes. But all this driving is not aimless. At four locations on the map are taxi parking spaces which allow entry to the other sections of the software.

## ARE THERE PARKING METERS IN TOYTOWN?

Once Noddy is parked, the software automatically loads one of the four locations available. These are: Noddy's House, Monkey Town, The Goblin Village and The Beach.

Once the software has loaded, a main screen appears. In each case, the screen is approximately twice the width of the viewing screen so you can scroll sideways to view more. Each of the main screens is littered with point-and-click events. I confess to laughing out loud at some of

the very amusing animations available.

Among the various animations, are hidden the load options for further games so you have to find them by trial and error.

The first of the locations is Noddy's House. The main screen shows a view of Noddy's house including the garage, right through to the kitchen. Pointing and clicking will cause the car to start up, the headlamps to work, a candle to light, the main light to go on, the TV to switch on and more besides. As we scroll into the rest of the house, the telephone will ring, the taps will turn on and the oven door will open. The list goes on, but I particularly liked the picture on the wall which changes from being a winter scene to a spring scene, a summer scene



*It's Space Invaders Jim, but not as we know it! Crabs attack the peaceful picnic and attempt to steal the food. Only Noddy, armed with a hosepipe, can drive them away. Look out for the black crabs which drag Noddy away and allow the others in.*

how many the program would allow but I gave up at about 50!

## WEIGHING AND COOKING

There are two games to be played in Noddy's house. The first is located in the garage and centred on a set of scales on a shelf. An animated

requester of two versions of Noddy, (one shaking his head, the other nodding) asks if you wish to go into the game or continue playing in Noddy's house. Choosing the affirmative loads the game which offers three difficulty levels. In the hardest level, a set of scales appears (kindly constructed by Mr Wobbly Man who just happened in for a chat) and a task begins which involves placing labelled weights on one side of the

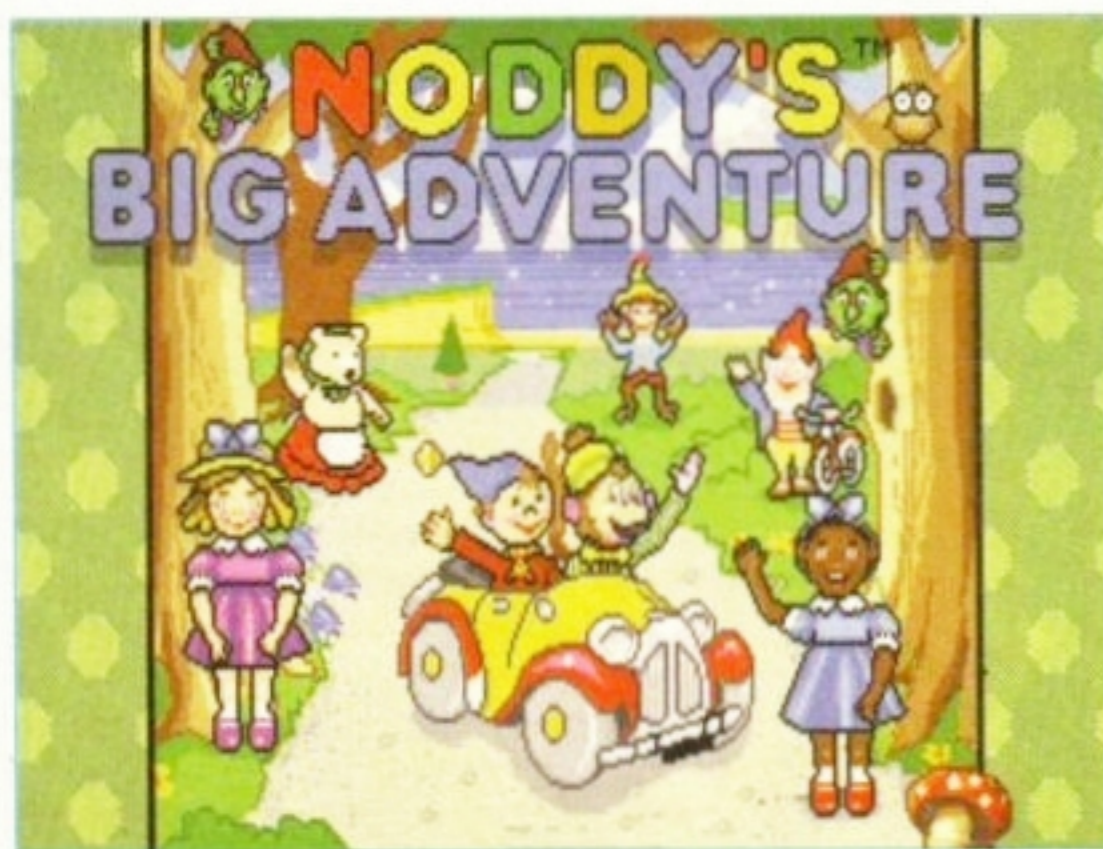


*Cooking can be fun or a recipe for disaster. Noddy places the ingredients from the cupboards into the oven and out come assorted meals which meet with either approval or contempt from Mrs Tubby Bear. At its most difficult level, this is a challenging task and educational experience for any child.*

scale to counterbalance the object on the other side. Multiple permutations are available and objects can be both added and removed. Once the task is completed, a click on Mr. Wobbly Man affirms this and success or failure is shown by a tick or otherwise. Throughout this game and all the others, that strange gnome, Big Ears, is available in the bottom right hand corner of the screen. Like

and so on through the four seasons. This has a simultaneous affect on the view out of Noddy's window, which reflects the season shown on the picture.

My favourite feature is the door. Clicking on this causes a letter to come through the letter-box. Click again and another letter arrives. The more you click, the more they come until they are spreading in a pile across the floor. I was curious to see



The main loader screen showing all Noddy's friends.



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**This issue: user groups in the North and overseas.**

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**Amiga Programmers' User Group** AMOS & Bitz programming, swap home-made software. Contact Andrew Postill, 2 Selby Road, Newlodge, Barnsley, South Yorkshire S71 1TA. Free Membership. (AS40)

**Amiga Users' Club** Monthly newsletter, revie, cheats, hardware. Membership £5 to Paul Kellett 67 Green Lane, Barnard Castle, County Durham DL12 8LF (AS40)

**Champion PD Club** PD at 30p, newsletters, advice, help and more. Membership £10. Contact Steve Pickett, 31 Somerset Close, Catterick, N Yorkshire DL9 3HE. (AS33)

**Chester-le-Street 16-Bit Computer Club** Exchange advice and swap tips. Meets Mondays from 7.30-9.30pm, Ground floor function suite, The Civic Centre, Newcastle Rd, Chester-le-Street. Contact Peter Mears 091 385 2939. (AS33)

**Club 68000** Comp's, prog'ing, music. Meets Harrogate Leisure Centre, Mondays 6.15pm-10pm. SAE to Chris Hughes, 59 Walton Park, Pannal, Harrogate, N Yorks HG3 1EJ 0423 891910. (AS33)

**Club Amiga** £10 a year for PD and a 24-hr helpline (091 385 2627). For more info send SAE to Chris Longley, 5 Bowes Lea, Shiney Row, Houghton Le Spring, Tyne and Wear. (AS33)

**Club Futura** Advice to programmers and beginners. Send SAE for info to G Holland, 16 Hermiston, Monkseaton, Whitley Bay, Tyne & Wear NE25 9AN. (AS33)

**Darlington Commodore Users Club** Bi-monthly newsletter with coverdisk, cheap PD (60p per disk), advice, etc. Send SAE for more details. Annual membership £7.50. Contact Steve Wheatley, 1 Ruby St, Darlington, Co Durham DL3 0EN. (AS38)

**Harley's PD Swaperama** PD swapping by mail. Contact G Varney, 140 Weston Drive, Otely, West Yorks LS21 2DJ 0943 466896. (AS38)

**Mainly Amiga** Programming, AmigaDOS, music, games. Meet Harraton School, £1, non-members £1.50. Contact Ray Scott, Vigo Lane, Harraton, Washington, Tyne & Wear. 416 9189. (AS38)

**Nothing But AMOS** Monthly disk magazine - £2.50 - news, reviews, previews, tips & cheats. Contact Neil Wright 39, Riding Dene, Mickley, Northumberland, NEA3 7DL 0661 842292. (AS35)

**Pennine Amiga Club** Free membership, free advice and a newsletter. Contact Neville Armstrong, 26 Spencer Street, Kelghley, West Yorkshire BD21 2BU 0535 609263. (AS33)

**Software City** Swapping, competitions, club magazine. Membership £8. Contact N Richards, 9 Hollis Close, Manor Estate Farm, Rawmarsh, Rotherham, South Yorkshire S62 7LX 0709 526092. (AS33)

**Steel PD**, cheats, ideas, music, art, programming, hardware mods. Free membership (postal only). Contact James Whitehead, 33 Middle Cliffe, Drive Crowedge, Sheffield S30 5HB. (AS33)

**The Amiga Club** Monthly newsletter, competitions, software exchange, huge PD library, cheats, tips, reviews. Contact G Starling, 31 Pine Lea, Brandon, Durham DH7 8SR. Membership £10 life plus two free games and DCopy. (AS33)

**The Amiga Studio** Friendly, helpful advice for serious Amiga users. Monthly newsletter, PD library, free loan of equipment to members, bar. Meets 7pm Tuesdays, Mitchell's Club, Scotia Road, Tunstall. Contact Dave Rose 0782 815589. (AS33)

**TDM** Disk mag, all PD, general interst,

game software, hardware. Free Membership. Michael Griggs, Palette, Black Barn, Gedney Marsh, Spalding, Lincs. (AS40)

**Warpdrive** Help-line, PD library, bi-monthly disk mag, free drinks, competitions and infoshet. £15 per year. Contact B Scales, 110 Burton Ave, Balby, Doncaster DN4 8BB 0302 859715. (AS33)

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**Computeque** From beginner to advanced user. Meets 7.45pm-10.30 pm every Tuesday at Inskip Meeting Hall, Ashurst, Skelmersdale, Lancs. Contact Steve Lalley 0695 31378. Half year membership £2.50 children, £3 adults (AS33)

**Fylde Computer Club** All aspects of computing. Meets 7pm, Lostock Gardens Community Centre, 2nd and 4th Wednesday of month. £15 per year, 50p on door. Contact Colin Biss, 90 The Esplanade, Fleetwood, Lancs FY7 7BQ 0253 772502. (AS33)

**Hyndburn Amiga Users Club** Tuition, advice, PD, and more. Meets Mondays 7pm, at the Canine Club, Accrington (£1 on the door). Contact Nigel Rigby, 7 Brecon Avenue, Oswaldtwistle, Lancashire BB5 4QS 0254 395289. (AS33)

**New Hall Amiga Users Club** Games, graphics, music, Workbench programming. Meets 7pm every Tuesday, New Hall Social Club, 104 Bury Rd, Dawtenshall. Membership £5 per year, under 16s not allowed. Contact Bill Grundy, 115 Stanley St, Accrington, Lancs. 0254 385365. (AS33)

## OVERSEAS

**16-32 Micro** Programming AMOS, bimonthly fanzine, PD (Fish → 590). Membership 100FF or £10. Contact F Moreau, 132 rue Jean Follain, 50000 Saint-Lo, France 315220 02. (AS33)

**32-bit ware** Devoted to A1200 and A4000 - PD, coverage of new software for these machines, games help. Meet on Hurricane BBS, mostly Saturday nights. Contact 32-bit ware, Ekorrstigen 10, 147 63 Tumba, Sweden. (AS33)

**Amiga Addicts** Newsletter and open nights. For info SAE to A Minnock, Clonkelly, Binn, Co Offaly, Ireland. (AS33)

**Amiga Athens club** PD swaps, tips, cheats etc. Free membership, just new PD or tips in exchange for services. Contact Stefanos Papamichael, 9 Derfeld Rd, Patisia, 11144 Athens, Greece 01/2027973. (AS33)

**Amiga Pros User Group, Greece** Concentrates on promotion of the Amiga in Greece, plus DTP, AMOS and graphics. Contact Stefanos Siopoulous, 52 Silivrias Str., N. Smyrni 17123, Athens, Greece. 01/9349963. Membership free. (AS33)

**AMOS Users** join The MR AMOS Club, winners of Europress Software's AMOS programming comp. Send £2.50 for issue one of disk mag. Contact Brian Bell, 8 Magnolia Park, Dunmurry, Belfast BT17 0DS. (AS35)

**Amiga Users Group of Western Australia** Monthly general meeting with demo, tutori-

als every Friday evening. Special Interest Group meetings. Membership fee AU\$35 to Bill Sharpe-Smith PO Box 595, Cloverdale WA 6105 Australia. (AS40)

**AUGFL vzw** Bi-monthly newsletter, PD, distribution & support of Belgian programs, registration-site, tips. 750 Bfr/year membership. Contact Lieven Lema, Meesberg 13, 3220 Holsbeek, Belgium. (AS33)

**City Centre Amiga Group** All-round user group, esp. PD, DTP, help for new users. Meet Ormond Hotel, 2-6pm. Contact Patrick Chapman, 70 Ballygall Crescent, Finglas East, Dublin II, Ireland. 345035. Membership £3 per week. (AS33)

**Comp-U-Pal** Australian group for users in the outback. Newsletter, helpline, PD library. Membership A\$24. Comp-U-Pal, 116 Macarthur Street, Sale, Victoria 3850, Australia. (AS33)

**CUGI Commodore Users Group of Ireland** Quarterly newsletter, demos, PD, BBS, discounts. Meet 8pm Friday fortnightly, St Andrew's College. Contact Geoffrey Reeves, c/o St Andrew's College, Booterstown Avenue, Blackrock, Co Dublin. 353 1 288 3863. Membership £15. Assoc., family & BBS membership also. (AS38)

**Danish AMOS user group** Trimonthly disk mag, £3 each, PD library SAE for info. Contact Tom Poulsen, DABG, postbox 127, 2640 Hedeusene, DK Denmark (AS40)

**Gibraltar Amiga Users Club** PD library, monthly newsletter, disk magazine, competitions, regular meetings (in the John Macintosh Hall). Membership from £6 per year. Contact David Winder, 7 Lime Tree Lodge, Montagu Gardens, Gibraltar 010 350 79918. (AS33)

**HTS (Malta)** Free membership. Contact K Cassar, Block 1 Flat, 6 H E Hal-Tmiem, Zejtun ZTN07 Malta 674023. (AS33)

**Japan Amiga Group** Share disks and make Japanese contacts. Contact: Rick Gardaya, PSC 78 Box 3876, APO AP 96326 USA. (AS35)

**Malta Amiga Club** Contact Zappor, PO Box 39, St Julians, Malta, 440453 (AS33)

**Maritime Amiga Club** Maritime computing, interact with seafarers ashore on Amigas. Contact CDR K Osei, GN Ships Refit Office, 51 Rue de la Bretonniere, 50105 Cherbourg, France. 33 33225447. (AS33)

**Navan Computer Club** Software reviewing, graphics, business, news and chat. Meet various hotels in Navan, 7.30-9pm. Contact Mark Arnold, Cannistown, Navan, Co Meath, Eire 046 21078. Membership £6 per year. (AS33)

**N Ireland Amiga User** Free PD, disk-based mag £2.50 per issue. SAE to Stephen Hamer, 98 Crebilly Rd, Ballymena, Co Antrim BT42 4DS. (AS33)

**Northside Amiga Group** Lectures by professionals on different Amigas and hardware. Demonstrations on serious software and games. Meets 8pm alternate Mondays, Donamede House, Dublin 13. Contact William Kelling, 10/A Rainsford Avenue, Dublin 8, Ireland 01 532 807. (AS33)

**Royal Air Force Amiga Club** Loads of new PD. Meets 1900-2000 hours, Thursdays, Blk 35, Room 40. Send 10 of your PD disks plus 2 x 24p stamps to Stan Young, HMF RAF Laarbruch, BFPO 43 445. (AS33)

**Singapore Sling** Promotes Amiga in Singapore. Meet Eugenia Court, every Sunday 1pm. Contact Eric Chai ML, Block 4 #14-413, Pandan Valley, Singapore 2159, 65 4680630. Membership free. (AS33)

**Software Exchange Club** Free help and advice. Contact Michael Lacey, Fern's Post Office, Enniscorthy, Co. Wexford, Republic of Ireland. (AS38)

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**Next month in AS33: Scotland, Wales, special interests, BBSs**

**Note: this list is provided as a free service for amateur, non-profit-making user groups. Amiga Shopper does not endorse or recommend any particular group and cannot be held responsible for any losses or problems you might suffer.**

## GETTING YOURSELF LISTED - AN IMPORTANT NOTE

Your user group will be listed here free of charge for six months, then deleted to prevent defunct groups being listed indefinitely. The number at the end of each entry is the last issue in which that entry will be included. If you want your group's entry left in, just send in this coupon again a couple of issues in advance. PD libraries are now listed at the end of the PD section - this issue, page 98.

**If you run a user group which isn't listed on this page, fill in the form below for your free entry. Send it to Amiga Shopper User Groups List, 30 Monmouth Street, Bath BA1 2BW. We reserve the right to refuse entries.**

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# Fast talking E

*Jason Hulance discovers why E, a Public Domain Amiga programming language, is racing up the popularity charts.*

**O**kay, the first question has to be, "Who needs a new language?". Most people agree that C is the language for serious programmers – some will accept no substitutes. But they are the people who will miss out on the E experience.

Speed is the primary reason that you'd want to test drive E. Its author, Wouter van Oortmerssen (known affectionately as "\$#!"), claims that an ordinary A500 (without Fast RAM) achieves compilation speeds of between 10,000 to 35,000 lines per minute. An A1200 (without Fast RAM) can reportedly achieve 25,000 to 85,000 lines per minute. My experience bears these figures out. In practice you're extremely unlikely to be left waiting for your program to finish compiling.

Not only is E fast at compiling, it also produces small and fast executables. You'd be forgiven for thinking that there's a trade off between compilation speed, executable size and speed of execution, but with E this just isn't the case. After using E for some months, I'm beginning to think that all the other language designers and compiler writers must be doing something badly wrong. Even on a single floppy based system, E is a joy to use. All you need is the compiler (which parses, compiles and links all in one and is currently about 40Kb in size) and the modules (E versions of the Amiga Operating System 2.04 and other useful include files) to be able to write that requester utility!

## WHAT'S E LIKE?

Technically speaking, E is a high-level, procedural programming language. It has a lot of built-in functions to simplify some of the more common system calls (such as **WriteF()**, **OpenW()** and **Gadget()**). The system calls of **Exec**, **Intuition**, **Dos** and **Graphics** are integrated into the compiler so there's no need to open these libraries from within your own programs.

Syntactically, E bears a comforting similarity to Modula-2, though its main influence is quite obviously C. This means that you can quite painlessly translate your favourite programs to E. However, the real benefits are reaped when you code directly in E, because you can then take advantage of features

such as immediate lists, true inline assembly, exception handling and quoted expressions, as described below.

## A BIG LIST OF FEATURES

When you program in C you have the tedious task of filling in structures and (in OS 2.0 and above) constructing tag lists. You can still do this in E, but you would be better off using E's immediate (typed) lists. For instance, a call to **CreateGadgetA** (from the Amiga's **gadtools** library) might be written in E as:

```
IF
(g:=CreateGadgetA(SCROLLER_KIND,
g, newgad,
[GTSC_TOP, 2,
GTSC_VISIBLE, 3,

GTSC_TOTAL, 10,
GTSC_ARROWS, 22,
PGA_FREEDOM, LORIENT_HORIZ,
GA_RELVERIFY, TRUE,
GA_IMMEDIATE, TRUE,
NIL])) = NIL THEN
Raise(ERR_GADGET)
```

This call would attempt to create a scroller gadget (like those found on Workbench drawer windows). The various configurable features of the gadget (like its size and position) are described by the tag list (the bit between the square brackets). To do the same in C, you would need to declare a variable to hold the list and initialise it appropriately. – the list therefore gets separated from the function call where it is used, which makes the program somewhat less readable.

Rather handily, lists can be used in a number of places. In fact, you could replace **newgad** with an immediate list representing a **newgadget** structure. However, it's not a good idea to take this too far since having too many lists could give you a real headache if you need to debug your code!

Advanced users will love the true inline assembly that E offers. You can easily optimise various parts of your code since all the mnemonics are part of the E language. You can easily reference E variables from assembly, too. For example, the following code fragment declares two variables, alters them with some inline assembly and then prints the results:

```
DEF a,b
b:=2
MOVEQ #1, D0 /* These three lines
*/
MOVE.L D0, a /* show off the true
*/
ADD.L b, a /* inline assembly. */
WriteF('Result: a=\d, b=\d\n',
a, b)
```

An assembly programmer will recognise the third line of the code as standard assembly. The fourth and fifth lines are less standard as they mix E variables and expressions with assembler mnemonics and this shows the real integration of E and assembly.

You could, in fact, write your whole program in assembly and compile it with the E compiler (it's faster than most assemblers). You wouldn't have all the features of a macro assembler but, as Wouter points out in his documentation, you have the whole of the E language to make up for that.

## E'S EXCEPTIONAL

Another feature which may at first appear to be only for the advanced user is exception handling (an idea borrowed from languages like Ada). Each procedure can have its own exception handling part. This nicely factors out error handling from the more general parts of your code. When you come across an error, all you need to do is **Raise()** it. Control then passes to the procedure's exception handler where the error can be analysed and acted on appropriately. You can even **Raise()** an error within the handler to recursively call the exception handler of the procedure which called your procedure!

In the accompanying documentation, Wouter gives a nice example of a storage management routine which uses exception handlers. It recursively allocates memory and, if an error occurs, the exception causes the memory to be freed properly. Automatic exceptions can be raised for built-in and library functions. This means you can just call the function, safe in the knowledge that an exception will be raised if an error occurs. Good candidates for this are the **OpenLibrary** and **AllocMem** calls:

```
RAISE ERR_NOLIB IF
OpenLibrary()=NIL
RAISE ERR_NOMEM IF AllocMem()=NIL
```

These declarations mean that calls to these functions in your code do not need to be wrapped with error checking as this is done automatically. This should mean that your resulting code is more compact and easier to read.

## THEPEAKING THENTHIBLY IN LITHP

The last influence on E is Lisp, from which the idea of quoted expressions is borrowed. Quoting an expression gives the address of the piece of (machine) code corresponding to the expression, rather than the value of the expression. This address can be stored in a variable and used like any other address. Passing the address to **Eval()** gives the result of evaluating the expression. This may seem like a lot of effort just to get the value of an expression but it does allow the expression code to be re-used and even passed to procedures.

The documentation gives a good example of how this feature might be used. Suppose you wanted to time various function calls or expressions. In C this would be a real nightmare – you'd have to write lots of little, parameterless functions each of which contained an appropriate expression and probably cast the results to **void**. In E you'd write a timing procedure:

```
PROC timing(func, title)
DEF t
/* Initialise t as a timer */
Eval(func) /* Evaluate the
expression */
/* Calculate timer difference */
WriteF('Time measured for \s was:
\d\n', title, t)
ENDPROC
```

This procedure is just the outline, showing the important steps and the use of **Eval()**. You'd call it with some of your favourite expressions or function calls as the first argument, and a description string as the second:

```
timing('x+y, 'addition')
timing('AllocMem(amount)', 'CBM
memory allocation')
d:=y*
timing(d, 'multiplication')
d:=myproc(a,b)
timing(d, 'my CPU intensive
procedure')
```

The first two examples pass the address of an expression directly,

# JARGON BUSTING

**Compilation** – the process by which a computer turns symbolic code into machine code.

**Exception** – erroneous, incorrect or unwanted behaviour.

**Gadget** – a small button or area of the screen which can be clicked on with the mouse or into which text can be typed.

**Library** – a collection of commonly used routines for a particular area/part of the Amiga.

**Linking** – the process by which a computer turns (intermediate) machine code into an executable program.

**List** – a linearly ordered collection of data. For example, [4,9,5] is a list with 4 as the first element, 9 as the second and 5 as the third.

**Mnemonic** – a keyword which represents a machine code instruction.

**Tag List** – a list which can be thought of as grouped in pairs. The first element of the pair denotes a type of data (eg. x position) and the second element gives a value for that data.

**Parsing** – The process by which a computer turns ASCII text into symbolic code.

but the last two store the address in the variable **d** before using the timing procedure. The backquote character is used to quote an expression and shouldn't be confused with the single-quote character which is used to delimit a string.

There are several other functions which combine lists and quoted expressions in a Lisp-like way.

**MapList()**, **ForAll()** and **Exists()** do what functional programmers might expect. For instance, the **MapList()** procedure applies an expression to each element in a list. The following call: **MapList({x}, [1,2,3,4,5], res, ~x\*3)** results in **res** taking the value [3,6,9,12,15]. This is because the variable **x** (the first argument) is assigned each value from the list (the second argument) in turn, and the expression (the last argument) is evaluated each time, building up a new list. In other words, this call does the same as the following code: **res:=[1\*3,2\*3,3\*3,4\*3,5\*3]**.

Without using **MapList()** it's much harder to see that each value in the list is trebled.

## E-TYPE.SIMPLICITY

With the type system E uses, there is an obvious trade-off between expressive power and error checking. E uses a very simple variable typing system: most things are either 32-bit long values, or pointers to objects (where an object is the E equivalent of a C or assembly structure). This allows a high degree of low-level polymorphism, in that one variable might represent one of many completely different objects. In C you'd need to do endless casting and generally clutter your program. But there is a downside. The lack of types means that there is very little useful type-checking that can be done by the E compiler, so it won't spot some of the more obvious coding mistakes you make.

## WHAT'S E GOOD FOR?

E, like the older and more established C, is specifically targeted at the creation of system applications and utilities. As an example, consider the following E program which uses **EasyRequestArgsA** to make a system requester:

```
PROC main() RETURN
EasyRequestArgs(0, [20,0,0,arg,'OK|
Cancel'],0,NIL)*5
```

This one-liner will compile to executable in a blink (no, you don't need **B-Link!**). If the source file was **request.e** you'd compile with this simple line:

```
1> ec request
```

The resulting executable will be **request** and will only occupy about 580 bytes. Nothing else is needed to run this executable – it stands alone. You'd get it running by typing something like:

```
1> request Shall I delete all your
SAS-C files?
```

This causes a system requester to pop-up with two buttons (**Okay** and **Cancel**) and the message we gave as the argument to **request**. If you select **Cancel** on the requester, 5 (**WARN**) is returned to AmigaDOS, otherwise zero is returned. You can use this program in AmigaDOS scripts to select different things to do, rather than having to use **ask**.

The E package comes with many useful examples, notably the powerful **dir** replacement (which can sort directory entries and execute commands on matched files), the system supervisor (a mini *Xoper* which lets you see details of the current tasks, devices, libraries, windows and message ports), and the AGA colour utility (which enables

you to see the differences between the old ECS and AGA chip sets). Other, smaller examples illustrate how to use various Amiga system libraries (such as **reqtools**, **asl** and **gadtools**) and how to program the Amiga properly in general terms.

For those of us not adept at learning purely by example, E comes complete with a short tutorial and a rather good reference manual, even if it is a little on the terse side. As always, though, there is no substitute for Commodore's own *Rom Kernel Reference Manuals* when learning how to use the Amiga system.

## IS THERE AN E FUTURE?

The current version of Amiga E is Version 2.1b. However, Wouter recently released information about the next version (2.5). This will have numerous enhancements (eg. Floating Point Unit support, multiple return values from procedures, and Object Oriented features) and, astonishingly, will compile up to 70 per cent faster and generate even faster executables. Memory consumption during compilation is to be reduced by up to 50 per cent and error reporting will be more accurate. More importantly, this new version will support compilation to modules (like C and assembly object files) for inclusion in other programs. Some major new features such as a source-level debugger may also be included, but this is not definite.

## HISTORICAL E SPEAKING

Wouter designed E to be the perfect Amiga programming language because he was fed up with the slow compilation speed of all the other languages he tried. But it didn't all happen overnight – some of you may remember DEX (Fred Fish disks 625 and 743) which is syntactically very similar to E and was Wouter's first major attempt at an Amiga compiler. DEX compiled much more slowly and generated assembly language (which then had to be compiled and linked). E was born because Wouter decided he could do a lot better than DEX.

The other day, I found another of Wouter's compilers. It's called FALSE (after his favourite boolean value) and it's only 1Kb. It's intended as a "toy" language (the operators are single characters) and I'm not sure where it fits in the history, but it's pretty good fun in a ZX81 sort of way.

## CHAMPING AT THE BIT

If you're still not even the slightest bit interested in trying E, you must have just spent a month's wages on a C compiler. In that case you probably won't want to know that, at present, E is a Public Domain product so it is completely free.

Those who are interested can get a copy from any decent PD House or from various bulletin boards. The latest version (v2.1b) is on Fred Fish disk 848 – this is a fairly minor update to v2.1 on Fred Fish disk 810.

If you have access to E-mail and you'd like to join the Amiga E mailing list then the address to mail subscription requests to is:

amigae-request@bkhhouse.cts.com

Just ask to be put on the mailing list. You'll get a reply telling you how to contribute to the on-going discussions. Wouter himself regularly contributes by answering questions and helping people with their problems.

## SUMMER E

In summary (ho ho bloody ho – Ed), if you're serious about programming your Amiga, you should get Amiga E. You won't regret the cost (it's free), you'll marvel at the compilation speed (it's fast) and you'll wonder how it's all done (it's probably very complicated). **AS**

## SHOPPING LIST

E programming language ..... PD  
Available from any decent  
PD House or bulletin board.  
Fred Fish disk 848

## CHECKOUT E

### Features

●●●●●●●●○  
Everything but OOP, FPU and 020+ processor support, but that's all coming in the next version.

### Documentation

●●●●●●●○○  
A tutorial, reference manual and loads of really good, useful examples. However, the tutorial is a bit short, and the reference manual is a bit too terse in places.

### Ease of Use

●●●●●●●○○  
A lot of the features are geared towards readability and ease of use. However, the error reports from syntax checking could be more helpful and at present you need to use an assembly level debugger to debug your code.

### Value for Money

●●●●●●●●●  
A complete, powerful language for the price of a floppy disk. Excellent value.

### Overall rating

●●●●●●●●●  
The bad points are completely outweighed by the good points.

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# THROUGH C INITIATION

The symbol means do not type a return - keep typing to the end of the next line. means type a space, then keep typing to the end of the next line.

**With "Create a new record" now up and running, this month's tutorial finds Toby Simpson adding the search facility and ironing out a few bugs.**

**S**earch is the main addition this month. The best way to implement this into our program with the minimum number of changes is to make the SEARCH button clear the current record, like CREATE does. This allows us to type in a few parts we want to match before pressing NEXT to search forwards or PREV to search backwards. The key to this is the search routine itself. Its prototype looks a little like this:

```
long search_record_data(long ↵
```

```
start_record, long direction, ↵
char *search_data);
```

It's really quite simple. We pass in a record number to start the search at, the direction in which we'll be going, and a pointer to a record containing the match information. This may be just part of one field, for example "impson" in the Name field, or maybe an entire field, say JB1 7XQ in the post-code field. Or we could just put 071 in the phone number field in order to find everyone who lives in central London. For direction, we have defined two flags in

address\_book.h:

```
/* Search types */
#define SEARCH_FORWARDS 0 /*
Search records forwards */
#define SEARCH_BACKWARDS 1 /* ..
or search them backwards */
```

We can always add further types and special search features in the future. The search routine itself is very easy indeed. Basically, we read in every record from the start record to the end record, which, depending on the direction we're searching in, is either 0 or the value held in **total\_records**. Once a record has been read in, we use a function called **strstr()** which finds occurrences of one string in another, to check every field in the record we just read in, and the record containing our match information, like this:

```
while (!done)
{
    /* Read in record to check
    against */
    if (!(read_record_data(match_
record, record_id))) return -1;

    /* Check for matches ... */
    match_ptr = match_record;
    search_ptr = search_data;

    for (loop = 0; loop < ↵
TOTAL_FIELDS; loop++)
    {
        if (strstr(match_ptr, ↵
search_ptr))
        {
            /* Match found, return it */
            return record_id;
        }
    }
}
```

The **strstr()** function works a little like this:

```
char *strstr(char *string1, ↵
char *string2)
```

If **string2** exists in **string1** then the function returns a pointer to the place where it occurred. If it did not, then it returns NULL. So we are able to say, "If the result of **strstr()** is NON-ZERO (that is, we found it), return this record ID". Also, note that where we read the record data in, we do check the return value in case of an error. If the match fails, we move onto the next field in the search record and the match record:

```
match_ptr = match_ptr + ↵
field_lengths[loop];
search_ptr = search_ptr + ↵
field_lengths[loop];
}
```

As we've done before, we simply add the length of the next record to the two pointers. Note that we used this technique a lot in our earlier CLI based routines for creating and

viewing records. If no match is found in any of the fields, we move to the next record:

```
/* Move to next record */
record_id = record_id + loop_step;

/* Check if done */
if (record_id == (total_
records + 1) || record_id == -1)
    done = TRUE;
}
```

**loop\_step** is either equal to -1 or 1, depending on which direction we're searching. At the start of the search routine we set the **loop\_step** variable accordingly, like this:

```
/* Default a start position */
if (start_record == -1)
    start_record = 0;

/* Set the loop direction
correctly */
if (direction == SEARCH_FORWARDS)
    loop_step = 1;
else
    loop_step = -1;

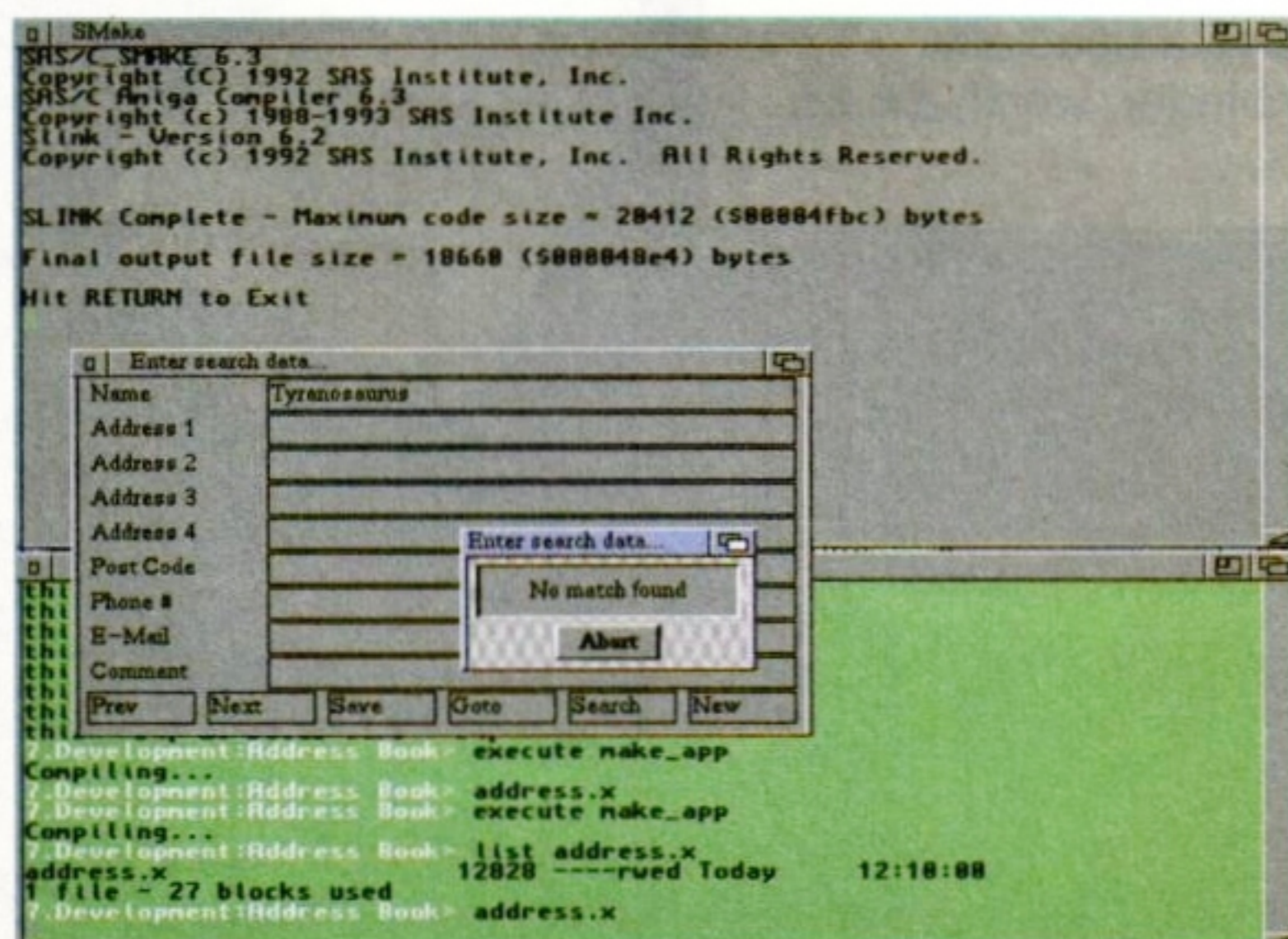
/* Loop through records till done
*/
record_id = start_record;
```

Note that initially, we check to see if the record number is invalid, and if so, set it to 0 as default. This could happen, for example, if the user clicked on **search** and then **next/prev** without actually showing any records first. It's a safety check — and it's better to be safe than sorry! Then we set the **loop\_step** value, and finally, before the actual search loop itself, set the **record\_id** variable to the start-point.

But how do we kick off a search in the first place? Well, as mentioned earlier, we'll interface it into the program in pretty much the same way in which we did **create**. That is, when we press **search**, all the fields are cleared, and we can enter the data that we want to search for. The actual code which occurs when the search button is pressed looks like this:

```
case BTN_SEARCH:
/*
**Search for data*/
if (record_changed){
    /* Ask if OK to lose changes */
    if (!(YesOrNo("Ok to lose ↵
changes?", "Yes", "Cancel"))){
        break;
    }
    search_flag = TRUE;
    new_flag = FALSE;
    record_changed = FALSE;
    show_current_record(record_
data, CREATE_SEARCH);

    /* Activate first string gadget */
```



The Search facility in action. It would appear that we don't have a tyrannosaurus anywhere on our list!

```

ActivateGadget(&window_gads
[0], addr_window, NULL);
break;

```

It's very straight forward. Note that we've added a new parameter for **show\_current\_record**, **CREATE\_SEARCH**. This is defined in **address\_book.h** as -2.

**show\_current\_record** now decides what to do by looking for both **CREATE\_NEW** and **CREATE\_SEARCH**. Take a look in **address\_gui.c** to see what the changes are and note the new **switch()** statement in there at the end to decide on the correct window title value - it will be handy for future expansion.

As with **create**, we first check if the user is about to lose any changes by selecting search, and ask them to confirm this. Then we set our search flag, clear the fields on screen, and then activate the first gadget ready to type.

The key event happens when the user presses **NEXT** or **PREV** because, if our flag **search\_flag** is set at this point then, instead of moving to the next or previous record as we would normally do, it searches for the next match. Lets look at the code which happens when we press **NEXT**, which would be "search forwards from this point..."

```

/*
** Goto Next Record
*/
if (search_flag)
{
    /* Search backwards */
    record_changed = FALSE;
    match_id = search_record_data(
current_record, SEARCH_
FORWARDS, record_data);

    if (match_id == -1)
        YesOrNo("No match found",
NULL, "Abort");
}

```

```

else
    current_record = match_id;

show_current_record(record_
data, current_record);
search_flag = FALSE;
break;
}

```

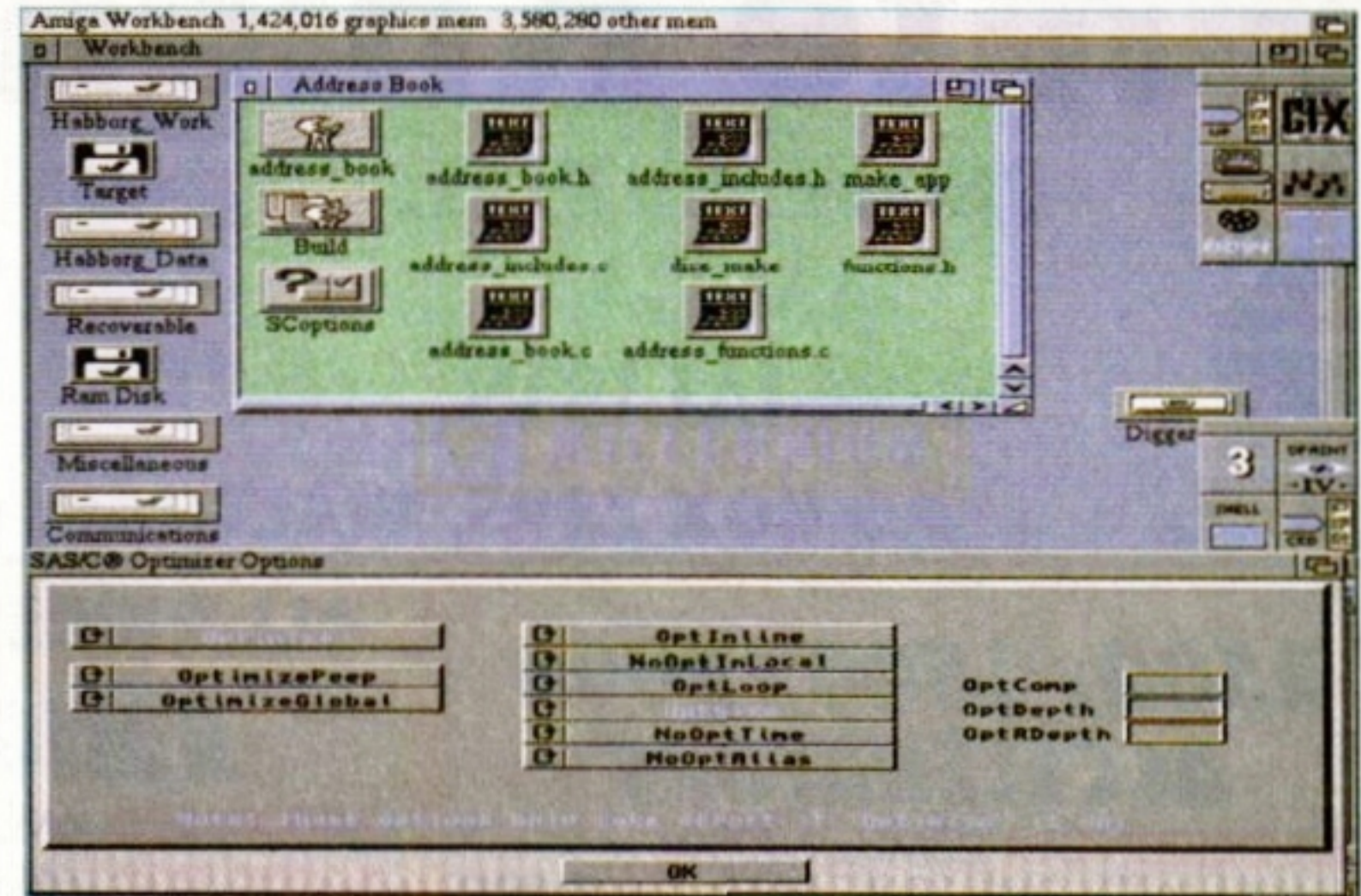
So, if we press **next** with our search flag set, we attempt to find the next matching record. If we succeed, we make it the current record and show it. If not, a brief requester saying that we could not get a match appears.

As searches go, it could do with a few refinements and these are relatively easy to make as the core search routine is quite flexible. For example, after finding a match, you might like to show a requester saying "Continue search? YES/NO".

**GOTO** is the last key feature that we said we'd work on and I'm holding off on that for now because I want to use it as an example of how to save yourself work next month by using an external support library. This library will work for both 1.3, 2.04 and above - it makes tasks like inputting numbers and strings very easy indeed. It also gives you a way of tidying up the requesters a touch under 1.3.

## ENHANCEMENTS

This address book application is far from perfect. The limitations of 1.3 make life so much harder for the programmer as everything has to be done in long-hand. Additionally, the basic planning was not detailed enough so that we have ended up with a particularly long-winded main loop in **address\_book.c**. It works fine, as you can see, but if we wanted to continue adding feature upon feature, it would really need to be re-written and made more efficient. We have pretty much finished as far as the basic Address



**SAS C makes it easier to tweak options, using a proper GUI to control the compiler options. The source code to this month's Address Book is on the Cover Disk.**

Book application is going to go, although we'll continue to make small changes over the next few issues. You may like to re-organise the **address\_book.c** module, and put a lot of the main **IDCMP switch()** parts into separate routines.

Next month we'll be delving into 2.04 of the Amiga operating system, and looking at a few of its features to see just how much time and effort they can save. Also, we'll have a look at tools which write parts of your program for you - great time savers and some of them make designing your GUI far easier. To top it off, we'll briefly check out 3.0.

## COMPILING THIS MONTH'S PROGRAM

The source code on the cover disk has been compiled and tested using **Dice 2.06.21** and **SAS C 6.3**. It is ANSI C and should compile with little or no alteration using any Amiga C compiler. A special AmigaDos script is provided to compile using **Dice**, which can be run by typing:

```
execute make_app
```

... from the shell, so long as you are in the drawer containing the address book source and the **make\_app** script file. This month, you'll also be able to compile the address book using **SAS C 6.3**. All you have to do is run the **Build** program supplied as part of the archive and everything will happen automatically.

Shareware **DICE** users will require the **Commodore Include Files**. The **Amiga Developers Kit**, version 3.1 is now available. In addition, the backlog from last year is now being cleared and is on sale for £23.00. The kit includes the latest autodocs on disk, loads of utilities, the linker libraries, example code, and of course, the includes themselves. To get hold of one, send a cheque made payable to Commodore Business Machines (UK) Ltd to: Sharon McGuffie, Commodore Business Machines UK Ltd, Commodore House, The Switchback, Gardner Road, Maidenhead, Berks SL6 7XA

## PROBLEMS

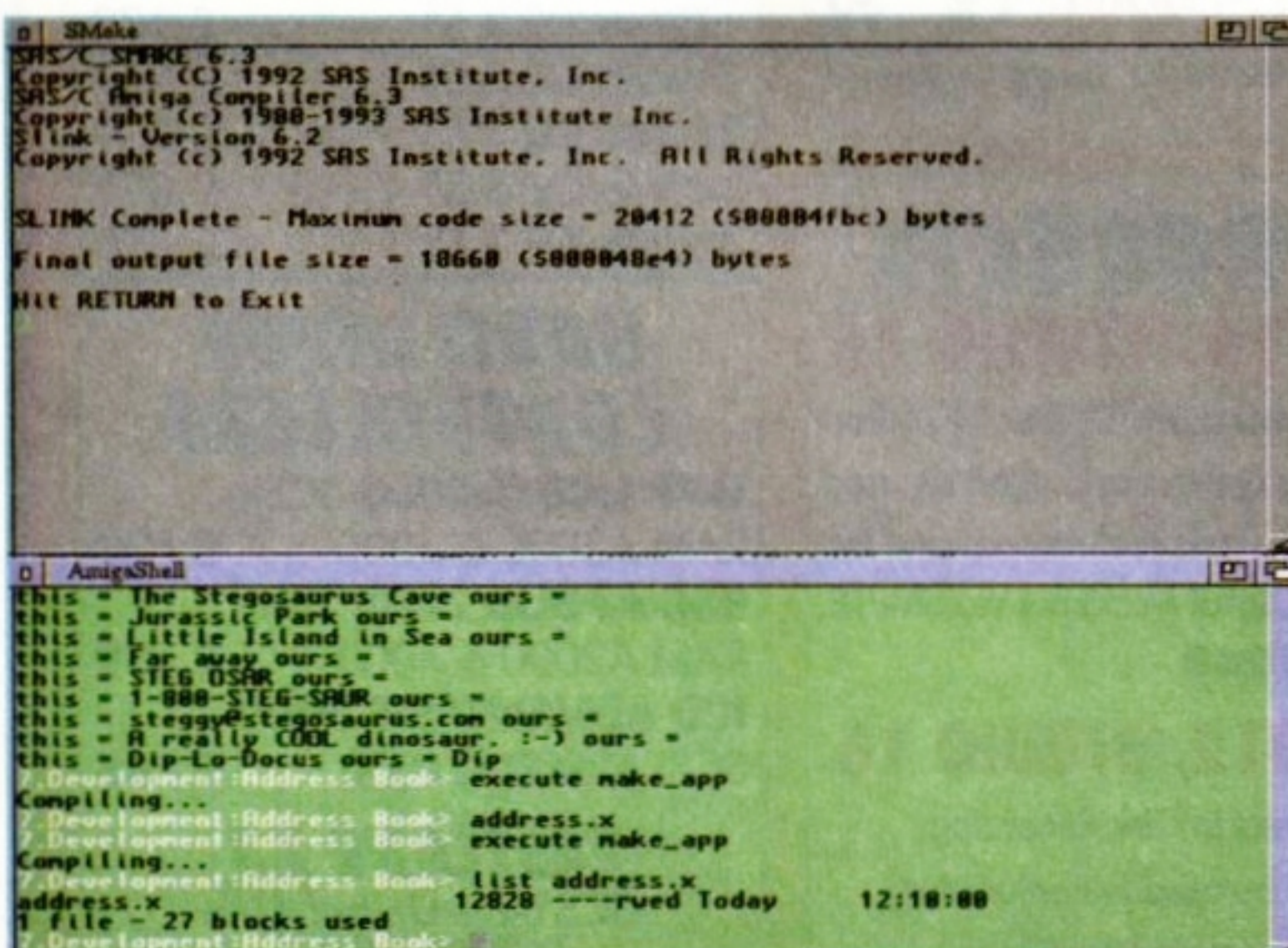
We heard last month of a reader who was having some problems trying to get the Address Book to compile using the commercial SAS-C product. It turns out that some of the prototypes and function definitions were slightly incorrect and this could have caused some serious problems. Unfortunately **DICE** does not spot these, whereas **SAS**, which is a proper ANSI-C compiler, expects things to be organised in a specific way. Needless to say the faults were quite easy to fix and they have been for this month's program which has been compiled and tested using both **Dice 2.06.21** and **SAS C 6.3**.

# JARGON BUSTING

**GUI** — Graphical User Interface. This is the part of the program which the user interacts with ie the buttons, knobs and levers!

**ANSI-C** — ANSI stands for

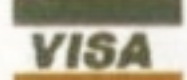
American National Standards Institute. Its job is to come up with standards for all sorts of things, including the C programming language. Most modern compilers are "Ansi Compliant".



Using **DICE** and **SAS C** to compile the program. The picture also shows some debuggin information from the development of the search routine.

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# AMOS action

**T**his year is already shaping up to be a great one for AMOS with lots of goodies lined up for release over the next 12 months. Not one, but two AGA extensions are due for release any day now.

As revealed in last month's column, Francois Lionet is hard at work on an update for AMOS Professional which will allow AMOS coders to take full advantage of the capabilities of the AGA chip set.

Meanwhile, for those of you who still haven't upgraded to AMOS Professional (why not? It's so cheap these days!), Aaron Fothergill's AMOS Club is soon to release an extension for AMOS Classic which will not only add full support for the AGA chip set, but Intuition too.

Rest assured that as soon as I have received review copies of these extensions, I'll be pitting them against each other in a tough, no-holds-barred review.

The AMOS books scene is picking up too. Not only has my own AMOS tome, *Ultimate AMOS*, started shipping (buy it now! - see the advertisement elsewhere in this issue) but I have recently heard rumours that there are two new books in the pipeline.

Indeed, Len and Anne Tucker (of *Totally AMOS* fame) have just released a new book called *AMOS in Education* that - as its name suggests - takes you step by step through the techniques involved in programming educational software. And for this you need nothing more than AMOS itself and a copy of *DPaint*!

**Jason Holborn enhances Amiga Shopper's already brilliant paint program with a step-by-step guide to coding a colour palette editor, complete with listing. Plus news of two brand new AMOS extensions heading your way soon - AGA here we come!**

## ASPAINTE REVISTED

While everyone else was tucking into the turkey and sipping the sherry over Christmas, yours truly was hard at work coding the latest installment of *ASPaint*, the *Amiga Shopper* paint program written using Europress's AMOS. Up until now, the colour palette used within *ASPaint* has been fixed. Although it's a very useable palette (which bears a striking resemblance to *DPaint*'s own default palette), the fixed palette is somewhat restricting. This month we add a new section of code that extends the usefulness of *ASPaint* immeasurably - a colour palette editor.

Coding this little beauty proved to be quite a challenge, but you'll find the complete code listed overleaf. I had hoped to make it just as powerful as *DPaint*'s colour palette editor but it proved to be just too code-intensive. So *ASPaint*'s colour palette editor will allow you to select a colour, edit it and that's basically your lot.

If you fancy extending it to include such *DPaint*-like features as 'Exchange' (swaps two colours) and 'Spread' (creates a spread of colours between two colours) then why not

have a go and, if you're successful, send your version of *ASPaint* into *Amiga Shopper* - it may even end up on the coverdisk!

Anyway, let's take a look at the colour palette editor code.

1. Unlike previous months, I've cut out the start of the program simply because we don't need to make any 'global' variable declarations. However, additions do have to be made to the **\_PROCESSTOOLS** procedure so that *ASPaint*'s gadget handling routine recognises our new code.
2. If the user clicks on the *ASPaint* toolbox 'P' gadget, the variable **SELECTED** will contain a value of seven. In order to jump to our new code, we therefore check the value of this variable to make sure that it is seven.
3. If **SELECTED** does contain a value of seven, the **\_PROCESSTOOLS** procedure jumps to a procedure called **\_PALETTEREQ** that, not surprisingly, contains our palette requester code.
4. With the additional code in place, we're almost ready to get started with the new **\_PALETTEREQ** procedure.
5. Before we go any further, however, we need to define a couple of local variables that will be used within this procedure. The first variable is **QUIT** - it's used as a flag to indicate when the **CLOSE** gadget is selected. When the **QUIT** variable contains a value of one, the continuous loop that holds the gadget handling code is broken.
6. The **CLR** variable is very important too because it holds the number of the colour that is currently being edited. When the procedure starts, this variable is loaded with the number of the colour selected. This ensures that when the colour palette editor is first displayed, it automatically selects the current colour.

7. The first thing we need to do is to open a screen that will hold the palette editor. After a low-resolution screen with just eight colours has been opened, AMOS's automatic colour cycling and cursor are then turned off and the screen is cleared using colour one.

8. To give our application a uniform look, the same colour palette used by the *ASPaint* toolbox is loaded into the requester screen.

9. The palette requester screen is then positioned near the bottom of the display using the AMOS **SCREEN DISPLAY** command.

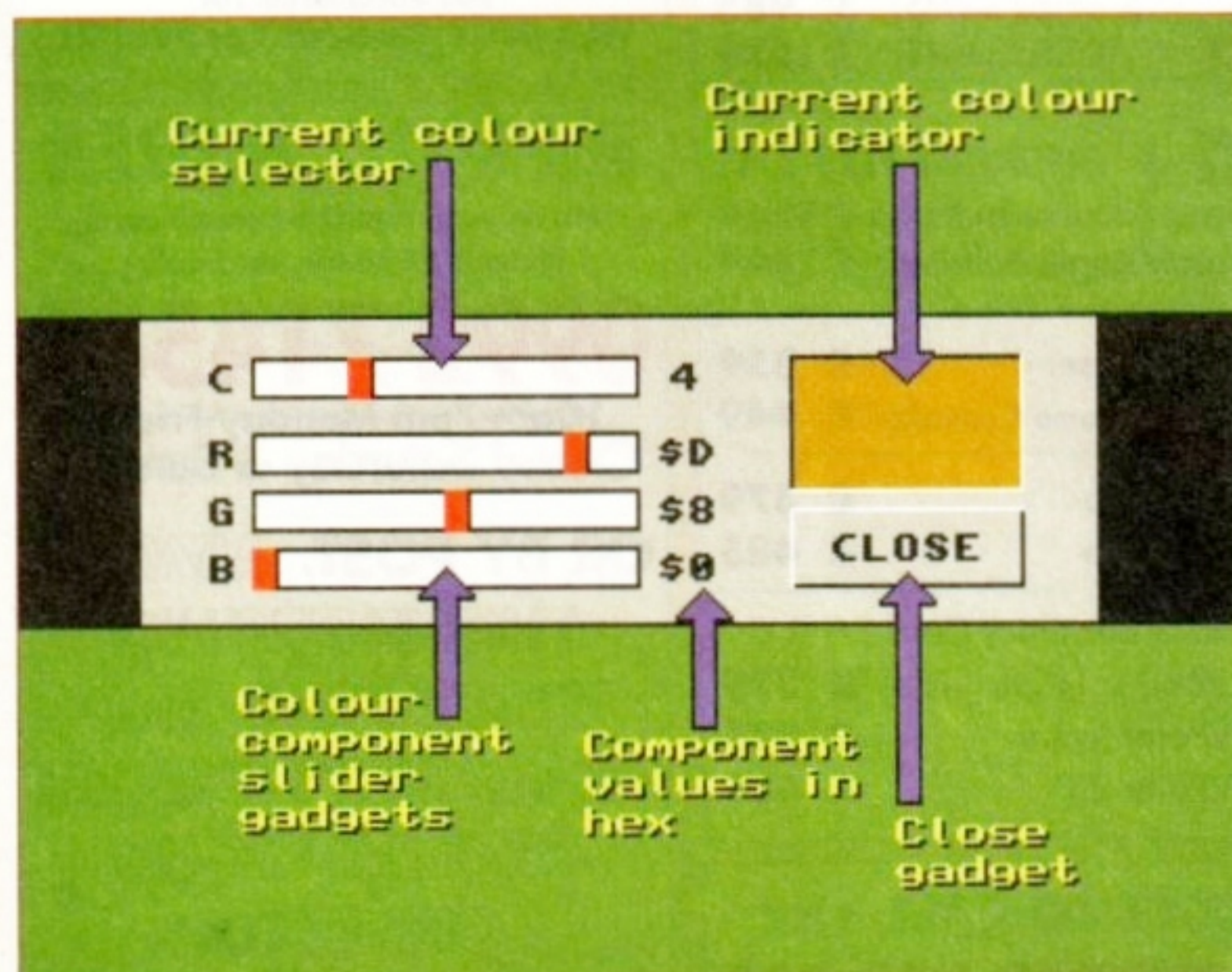
10. In order to display the colour that you're editing, a block is drawn onto the right hand side of the palette editor screen using colour five. Because the **CLR** variable is already loaded with the number of the current colour, we set colour five to the colour setting of the canvas screen by reading the palette information from the **PALTE()** array.

11. In order to display the red, green and blue values of the current colour, we need to read the value of the current colour into a variable called **RGB\$** as a hex value.

12. Each of the three colour components (red, green and blue) is extracted from the hex value using the **MIDS** function.

13. Now we need to initialise the requester's screen display. The first step is to cut down the apparent size of the screen by drawing two filled boxes on either side of the screen to limit the display to a small rectangle in the centre of the screen.

14. Our colour palette requester needs five gadgets, each of which is handled as an AMOS 'screen zone'. Before we can define our screen zones, however, we tell AMOS how much memory to set aside for their definitions using the **RESERVE ZONE** command.



The *ASPaint* palette editor is pretty much self explanatory but here's a quick rundown of what each gadget does.

**15.** Four of the gadgets used by the palette editor are slider (proportional) gadgets that are drawn using AMOS's **HSLIDER** command. The default style of these gadgets is rather dull, so we use the **SET SLIDER** command to initialise the 'look' of all our slider gadgets.

**16.** The first slider (the colour selector) is defined using the **HSLIDER** command.

**17.** AMOS doesn't automatically handle slider gadgets for us, so we need to write the slider gadget code ourselves using AMOS's 'screen zones' facility. The space taken up by each slider gadget is defined as a screen zone using the **SET ZONE** command.

**18.** Now we display the three colour component sliders starting with the "red" slider gadget. The slider is first displayed and then its screen zone is defined.

**19.** We then do the same thing with the "green" colour component slider gadget...

**20.** ...and the "blue" colour component slider gadget.

**21.** With all four slider gadgets defined, we draw the current colour display gadget onto the screen using a combination of the AMOS **BOX, BAR** and **DRAW** commands. Note how the centre of the gadget is drawn using colour five.

**22.** The gadget imagery of the screen **CLOSE** gadget is then drawn using exactly the same technique.

**23.** The area of the screen that is used to hold the **CLOSE** gadget is then defined as a screen zone.

**24.** With all five gadgets now drawn onto the screen, all that remains is to print all the requester text onto the screen. We could have used the AMOS **PRINT** command for this but **TEXT** is used instead so that we can position the text with pixel-perfect accuracy.

**25.** Now that the colour palette editor's screen has been drawn, the routine then enters a loop that is performed until the user clicks on the **CLOSE** gadget. The code within this loop is responsible for handling the operations of the gadgets that we defined.

**26.** Obviously there's not much point in checking to see whether the palette editor's gadgets have been selected if the mouse pointer is not over the palette editor's screen so we look at the value returned by the

**MOUSE SCREEN** function. If the value returned is two (indicating screen two), the code within the **IF...THEN** construct is performed.

**27.** The first gadget that the routine checks is the colour selector slide bar. In order to process the slide bar, the mouse pointer must be over the gadget and the user must be pressing the left mouse button.

**28.** In order to find which colour the user has selected, a simple calculation is performed. This involves reading the current position of the mouse pointer within the gadget, subtracting 60 and dividing that number by the number of colours available. The resulting value is placed into the variable **X**.

**29.** The AMOS **HSLIDER** has a habit of returning values that are out of range so we check the value held in the **X** variable against the maximum number of colours available.

**30.** If the value is out of range, it is rounded down so that it is equal to the highest colour available.

**31.** AMOS won't automatically adjust the position of the slider gadget's 'handle' so we have to do this ourselves by redrawing the gadget with the handle in its new place. To keep everything running smoothly, this is tied in with the refresh of the screen.

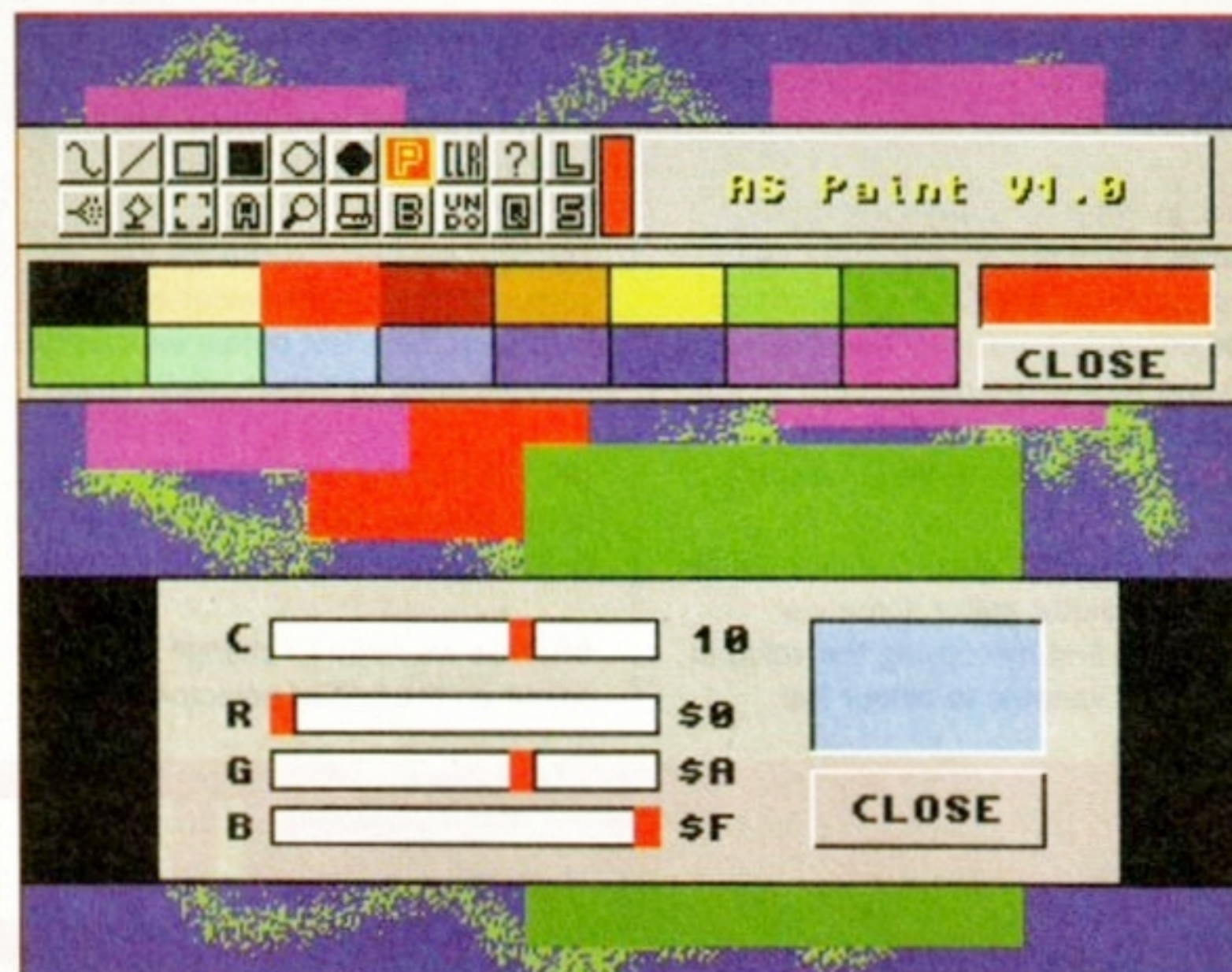
**32.** The value held in the **X** variable is then transferred into the **CLR** variable, effectively changing the current colour setting.

**33.** The colour selector slider isn't the only gadget that needs to be redrawn. In order for the three colour component sliders to be redrawn, we need to calculate the settings of each colour component by reading the setting of the current colour from the **PALTE()** array which is then converted to hex and divided into three separate hex digits, one for each colour component.

**34.** The three colour component gadgets are then redrawn so that their 'handles' reflect the value of the new current colour.

**35.** The number of the current colour and the hex values of the three colour components are then redrawn onto the screen using the **TEXT** command.

**36.** Now that the colour selector slider gadget is complete, the code moves onto the first of the colour component sliders. Just like the



*Wow, DPaint eat your heart out! With our palette editor now in place, ASPaint is shaping up into a powerful paint program.*

colour selector, the routine starts by checking to make sure that the mouse pointer is both over the 'red' component slider and the user is pressing the left mouse button.

**37.** In order to find the setting of the red colour component that the user has selected, a simple calculation is performed which reads the current position of the mouse pointer within the gadget, subtracts 60 and then divides it by 16 (the maximum number of combinations). The resulting value is placed into the variable **X**.

**38.** The value held in **X** is then checked to make sure that it is not greater than 15. If it is, it is rounded down to 15 so that the colour component is set to maximum.

**39.** Just like the colour selector, the red component slider needs to be redrawn so that it reflects the new colour setting.

**40.** The new hex value of the red colour component is then redrawn next to the slider gadget so that it reflects the new setting.

**41.** The hex value of the red colour component is then saved into the variable **RED\$**. This value will later be used to set the current colour to the new colour setting on the main 'canvas' screen.

**42.** The same gadget handling technique is then repeated for the 'green' colour component...

**43.** ...and the 'blue' colour component.

**44.** The last gadget that needs to be checked is the **CLOSE** gadget which closes the palette editor

screen. To see whether this gadget has been selected, the position of the mouse pointer and the status of the left mouse button is checked.

**45.** The drawing mode is first changed to 'inverse' mode.

**46.** A filled box is then drawn over the **CLOSE** gadget, effectively inverting the gadget imagery. The program then waits for four vertical blanks before proceeding.

**47.** The **QUIT** variable is then set to one so that the **REPEAT...UNTIL** loop ends.

**48.** Just like the toolbox screen, the palette editor screen can be dragged up and down the display with the mouse. All you have to do is click on any part of the palette editor screen that doesn't have a gadget on it and then, whilst holding down the left mouse button, move the mouse pointer up or down. In order to make sure that the user does want to drag the screen, the **MOUSE ZONE** function is checked to make sure that it contains a value of zero (indicating that the mouse pointer is not over a gadget) and the **MOUSE KEY** value is checked to make sure the left mouse button is being depressed by the user.

**49.** In order to 'fix' the position of the screen to the mouse pointer, an offset value is stored into a variable called **YOFF**.

**50.** The routine then enters a loop performed over and over again until the user lets go of the left button.

**51.** The first thing the loop does is read the current 'Y' position of the mouse pointer. The value held in **YOFF** is then subtracted from this.

**52.** The vertical position of the screen is then repositioned using the **SCREEN DISPLAY** command.

**53.** In order to change the canvas screen's colour palette, the three colour component hex values must be converted into an integer between 0 and 4096. The three components are combined and then converted to a number using the **Val()** function.

**54.** The current colour display gadget on the palette editor screen is changed first by copying the value in the **RGB** variable to colour five.

**55.** The value held in the **RGB** variable is then copied into the **PALTTE()** array so that the colour change is made permanent.

**56.** Now we need to change the colour of the current colour on the canvas screen. But before we can do this, we need to select colour zero.

**57.** The current colour number held in the variable **CLR** is then changed to the value held in the **RGB** variable.

**58.** Now we need to change the colour on the colour selector screen.

It may not be open, so we first check that it is open by making sure that the variable **COLSELECT** contains a value of one. If it does, the current screen is changed to screen one and the colour setting is changed.

**59.** The toolbox 'current colour' display needs to be changed too if the current drawing colour matches the colour that is currently being edited. If it does, the current screen is changed to screen seven and the value of colour four is changed.

**60.** With all the colour changes

made, the routine then changes the current screen number back to reactivate the palette editor gadgets.

**61.** If the variable **QUIT** contains a value of one, the loop is terminated and the palette editor screen is closed. The palette editor is then effectively turned off, allowing the user to continue painting.

The symbol means do not type a return - keep typing to the end of the next line. means type a space, then keep typing to the end of the next line.

AS

## LISTING

```

1. Procedure _PROCESSTOOLS[SELECTED]
  If SELECTED=1
    _FREEHANDDRAW
  End If
  If SELECTED=12
    _FILLAREA
  End If
  If SELECTED=2
    _LINEDRAW
  End If
  If SELECTED=3
    _OUTLINEBOXDRAW
  End If
  If SELECTED=4
    _FILLEDBOXDRAW
  End If
  If SELECTED=5
    _OUTLINECIRCLEDRAW
  End If
  If SELECTED=6
    _FILLEDCIRCLEDRAW
  End If

2. If SELECTED=7
3. _PALETTEREQ
  End If

  If SELECTED=11
    _AIRBRUSH
  End If
  If SELECTED=8
    _CLEARIMAGE
  End If
  If SELECTED=13
    _GRABBRUSH
  End If

  If SELECTED=18
    _UNDO
  End If
  End Proc

4. Procedure _PALETTEREQ
5. QUIT=0
6. CLR=CURCOLOR

7. Screen Open 2,320,80,8,Lowres
  Flash Off : Curs Off : Cls 1
8. Palette $0,$AAA,$FFF,$FF0,$ECA,$F00,$FF0
9. Screen Display 2,,200,,

10. Colour 5,PALTTE(CLR)

11. RGB$=Hex$(PALTTE(CLR),3)
12. RED$=Mid$(RGB$,2,1)
    GREEN$=Mid$(RGB$,3,1)
    BLUE$=Mid$(RGB$,4,1)

13. Ink 0
    Bar 0,0 To 30,80
    Bar 280,0 To 320,80

14. Reserve Zone 5
15. Set Slider 1,2,0,1,0,2,6,0

16. Hslider 60,10 To 160,20,CLOURS,CLR,1
17. Set Zone 1,60,10 To 160,20

18. Hslider 60,30 To 160,40,16,Val("$"+RED$),1
    Set Zone 2,60,30 To 160,40

19. Hslider 60,45 To 160,55,16,Val("$"+GREEN$),1
    Set Zone 3,60,45 To 160,55

20. Hslider 60,60 To 160,70,16,Val("$"+BLUE$),1
    Set Zone 4,60,60 To 160,70

21. Ink 0 : Box 200,10 To 260,45
    Ink 5 : Bar 201,11 To 259,44
    Ink 2 : Draw 260,10 To 260,45
    Draw 200,45 To 260,45

22. Ink 0 : Box 200,50 To 260,70
    Ink 2 : Draw 200,50 To 260,50
    Draw 200,70 To 200,50

23. Set Zone 5,200,50 To 260,70

24. Ink 0
    Text 210,63,"CLOSE"
    Text 48,18,2C"
    Text 48,38,"R"
    Text 48,53,"G"
    Text 48,68,"B"
    Text 161,18,Str$(CLR)+" "
    Text 165,38,"$"+RED$
    Text 165,53,"$"+GREEN$
    Text 165,68,"$"+BLUE$

25. Repeat
26. If Mouse Screen=2
27. If Mouse Zone=1 and Mouse Key=1
28. X=(X Screen(X Mouse)-60)/(100/CLOURS)
29. If X>CLOURS-1
30. X=CLOURS-1
    End If
31. Hslider 60,10 To 160,20,CLOURS,X,1

32. CLR=X
33. RGB$=Hex$(PALTTE(CLR),3)
    RED$=Mid$(RGB$,2,1)
    GREEN$=Mid$(RGB$,3,1)
    BLUE$=Mid$(RGB$,4,1)

34. Hslider 60,30 To 160,40,16,Val("$"+RED$),1
    Hslider 60,45 To 160,55,16,Val("$"+GREEN$),1
    Hslider 60,60 To 160,70,16,Val("$"+BLUE$),1
    Wait Vbl

35. Text 161,18,Str$(CLR)+" "
    End If
36. If Mouse Zone=2 and Mouse Key=1
37. X=(X Screen(X Mouse)-60)/(100/16)
38. If X>15
    X=15
    End If
39. Hslider 60,30 To 160,40,16,X,1
    Wait Vbl
40. Text 165,38,Hex$(X)
41. RED$=Mid$(Hex$(X),2,1)
    End If
42. If Mouse Zone=3 and Mouse Key=1
    X=(X Screen(X Mouse)-60)/(100/16)
    If X>15
    X=15
    End If
    Hslider 60,45 To 160,55,16,X,1
    Wait Vbl
    Text 165,53,Hex$(X)
    GREEN$=Mid$(Hex$(X),2,1)
    End If
43. If Mouse Zone=4 and Mouse Key=1
    X=(X Screen(X Mouse)-60)/(100/16)
    If X>15
    X=15
    End If
    Hslider 60,60 To 160,70,16,X,1
    Wait Vbl
    Text 165,68,Hex$(X)
    BLUE$=Mid$(Hex$(X),2,1)
    End If
44. If Mouse Zone=5 and Mouse Key=1
45. Gr Writing 3
46. Bar 200,50 To 260,70
    Wait 4
47. QUIT=1
    End If
48. If Mouse Zone=0 and Mouse Key=1
49. YOFF=Y Screen(Y Mouse)
50. Repeat
51. Y=Y Mouse-YOFF
52. Screen Display 2,,Y,,
    Wait Vbl
    Until Mouse Zone<>0 or Mouse Key=0
    Else
53. RGB=Val("$"+RED$+GREEN$+BLUE$)
54. Colour 5,RGB
55. PALTTE(CLR)=RGB

56. Screen 0
57. Colour CLR,PALTTE(CLR)
58. If SELECTCOL=1
    Screen 1
    Colour CLR,PALTTE(CLR)
    End If
59. If CLR=CURCOLOR
    Screen 7
    Colour 4,PALTTE(CLR)
    End If
60. Screen 2
    End If
    End If
    Until QUIT=1

61. Screen Close 2
    End Proc

```



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# Six appeal

**Jeff Walker finds out if the latest, much-improved version of Protext has proved the case for text based word processors.**

**T**here can't be many Amiga owners who haven't heard of *Protext*, the word processor produced by Arnor Ltd. While most rival word processors for the Amiga have only progressed as far as second and third versions, *Protext*, first released on cassette in 1985 for the Amstrad CPC464, is now in its sixth incarnation.

Previous versions of *Protext* have been criticised for not looking or feeling like a normal Amiga application. This is because *Protext* is available for different makes of computer and has been designed to look and work in much the same way on each one. The idea was to make users feel at home if they had to switch from one type of computer to another. However, this created a problem when the massive advances that came with Workbench 2 and 3 left *Protext* a little behind the times.

For its latest Amiga version of *Protext*, Arnor set itself the task of bolting on a more attractive, user-friendly graphical user interface (GUI), and adding new features without changing the classic *Protext* command line interface.

A glance at the *Protext 6* screen makes you think little has changed, but behind the familiar façade there has been some major surgery.

## DOCUMENT SETTINGS

Previously the document settings were set up with either the separate **Config** utility or via the stored commands. You can still do things

this way but the new **Document Settings** requester (or dialogue box as the manual insists on calling it after the Windows™ nomenclature) makes it easier to change global settings like paper size, the default text style, margins, formatting options and headers and footers. *Protext's* measurement system used to be a number of characters across the document and a number of pages/lines down it — now you can use inches or centimetres instead which makes it much easier to work with a fixed-width font on-screen while printing with proportionally spaced printer fonts.

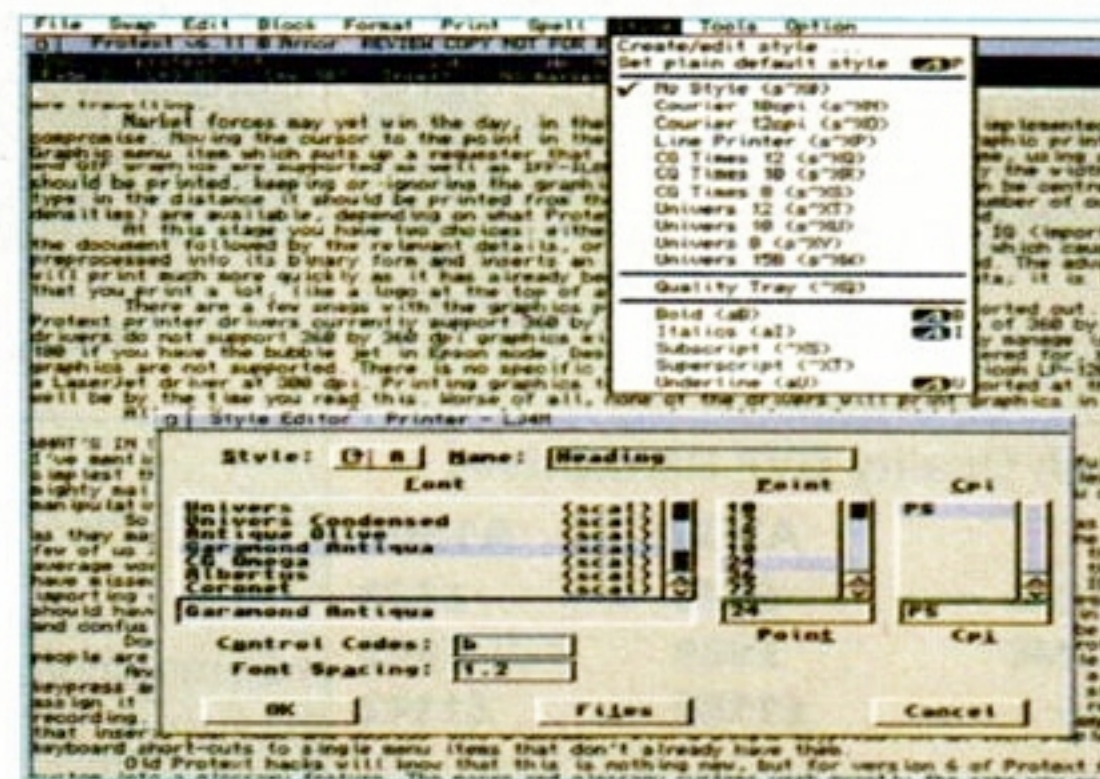
Headers and footers are now a lot easier to set up. Two neat requesters enable you to specify up to nine lines each for odd-page and even-page headers, and odd-page and even-page footers. These are global document settings so, if you want to switch headers/footers on and off at different points in the document, or even completely change the style or content of headers/footers part way through a document, you will have to use the stored commands. No other Amiga word processor enables you to alter these details.

Document settings are saved with the document, but they can be

saved as separate settings files as well if you like.

For printers that have a landscape page orientation built in (mainly modern DeskJets and LaserJets), there is a Landscape button in the **Document Settings** requester which automatically swaps the page width and height dimensions around.

I mentioned that the default text



**Styles are a major addition to version 6. Up to 26 of them can be defined and added to the Styles menu.**

style can be set in the **Document Settings** requester and these styles are another new feature of version 6. *Protext* uses its own kind of printer drivers, not standard Workbench ones. While this can be seen as a disadvantage, it does mean that Arnor can give you complete control over the hundreds of printers supported by *Protext* — these include popular modern printers made by Star, Citizen, Hewlett-Packard, Canon and so on. Because *Protext* printer drivers know what

fonts are built into your printer, you can use any of them at any point in a document. A new **Styles** feature enables you to select a font, a size, a line spacing and some control codes (bold, italic and so on) and tie them to a named style, which then appears in the **Styles** menu. Up to 26 styles can be created.

Whether you own a printer that contains just a few small fonts, lots of fonts in different sizes or scalable fonts like the Epson Stylus 800, *Protext* will enable you to make the most of them. For example, you could set up a large, bold heading style; a little italicised header/footer style; a special style for tables; another for technical jargon and yet another for important details. Applying these styles is as simple as selecting them from the **Styles** menu. The *Protext 6* manuals use styles extensively (printed on a LaserJet 4L) and they are an excellent example of the kind of professional quality work that can be created very easily indeed.

There is, however, a fly in the ointment. While *Protext* supports colour printers and enables you to print any style in any colour, the colour of the text is not part of the style and has to be applied separately. When quizzed about this oversight, Arnor said that it would be fixed as soon as possible.

Before leaving text styles, I should briefly point out that a small number of colour printers can't print coloured text from *Protext*. Among these, unfortunately, are the popular DeskJet 310 and 500C. But the 550C can print coloured text as can the Canon colour bubble jets and the 9/24-pin Epson compatibles made by Star, Citizen, Panasonic *et al.* *Protext* supports most of these although the SJ-144 colour thermal printer from Star is not listed.

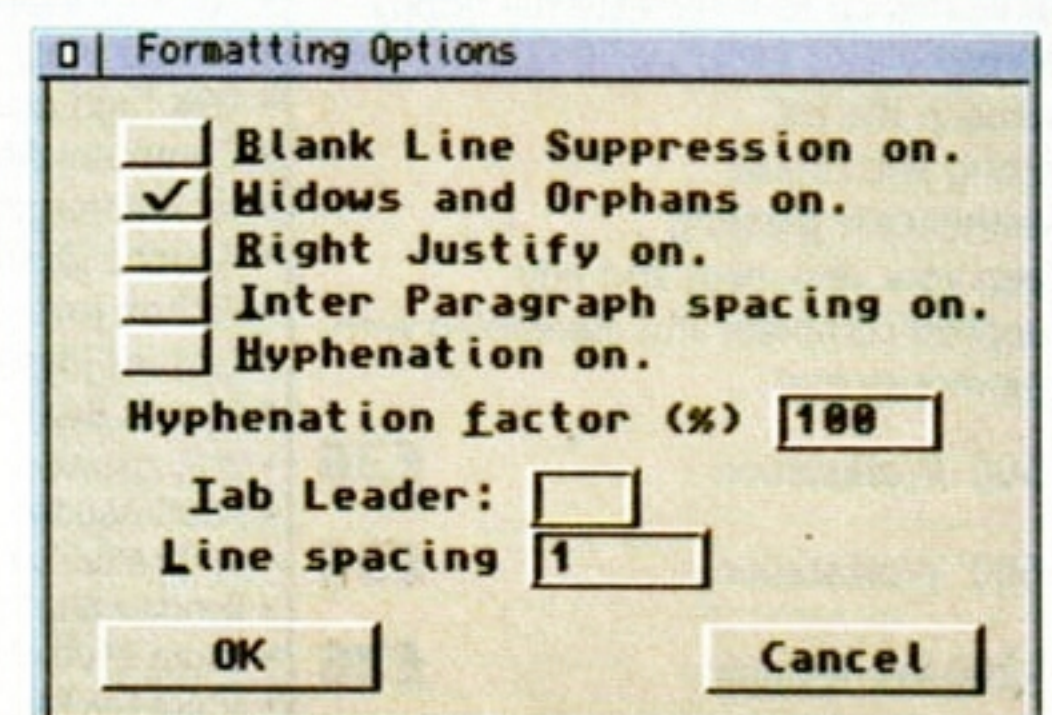
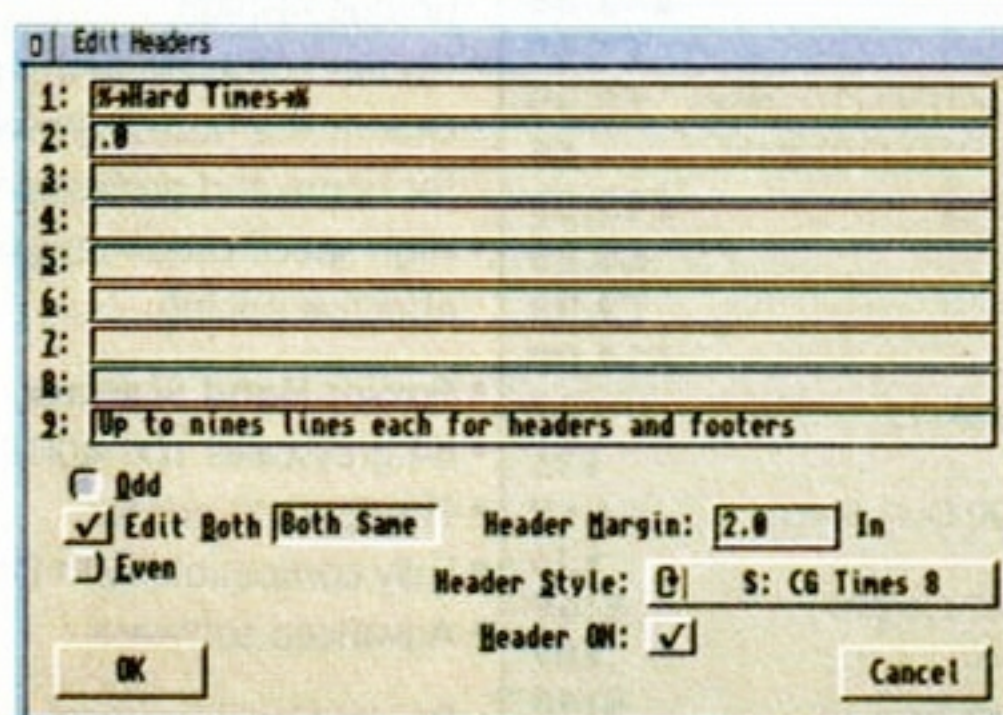
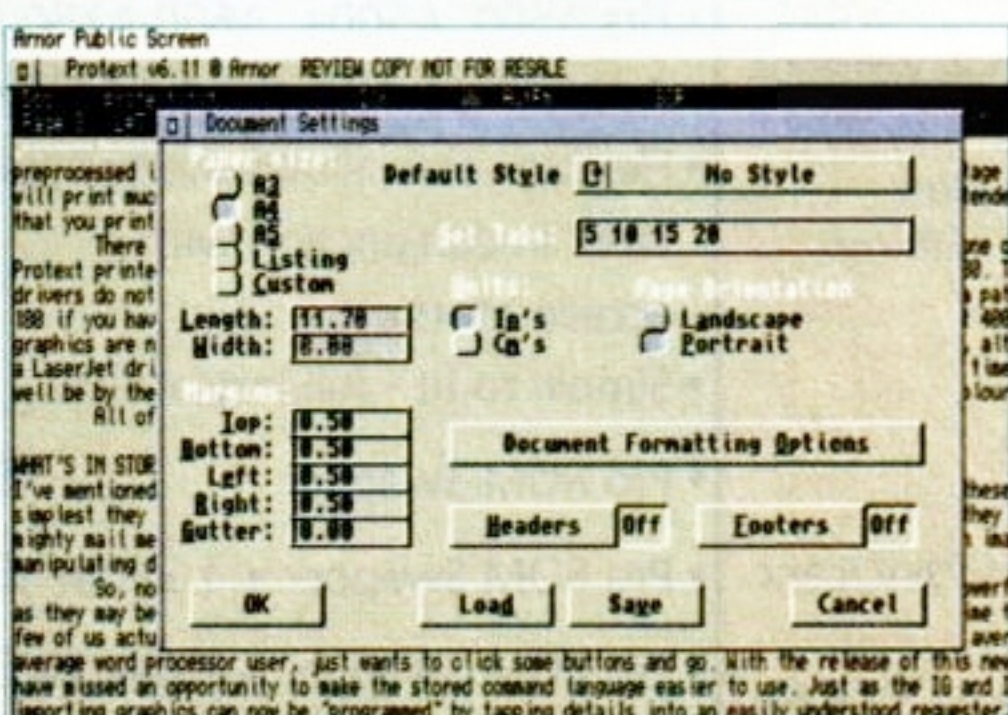
## IN THE PICTURE

Support for graphics is a feature that many *Protext* users have been

continued on page 80

## GET IT STRAIGHT

No more messing with stored commands to set up your page sizes and margins — the new **Document Settings** requester even includes facilities for Landscape printers and for setting your headers and footers.

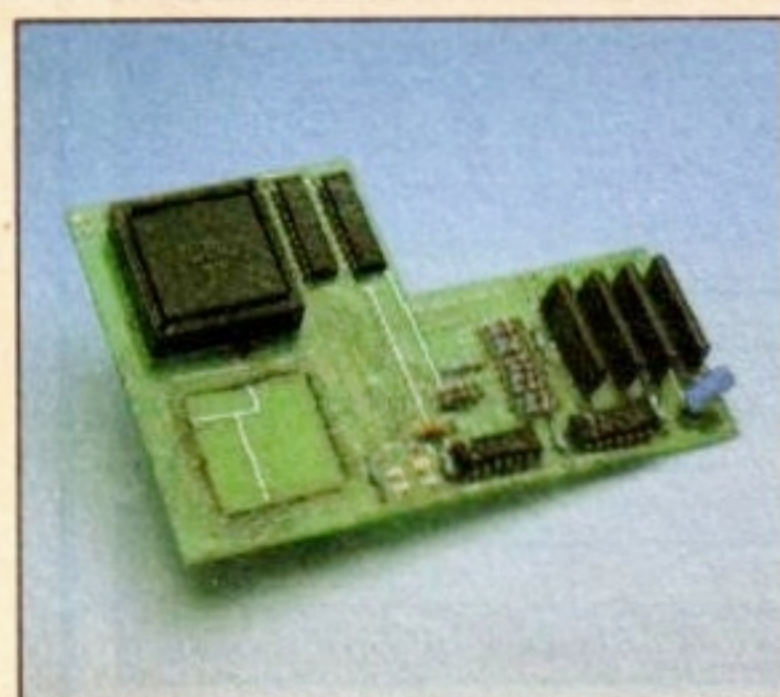




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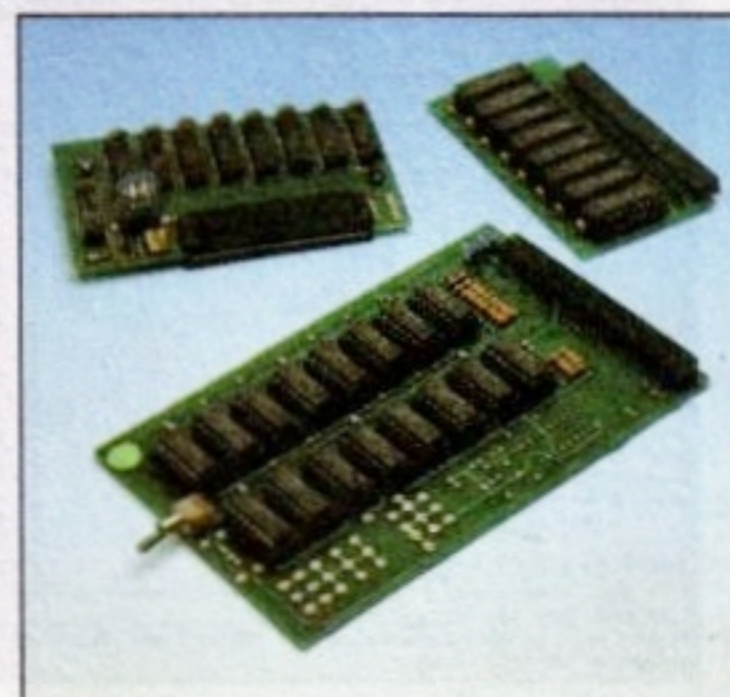
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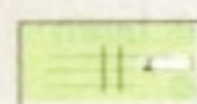
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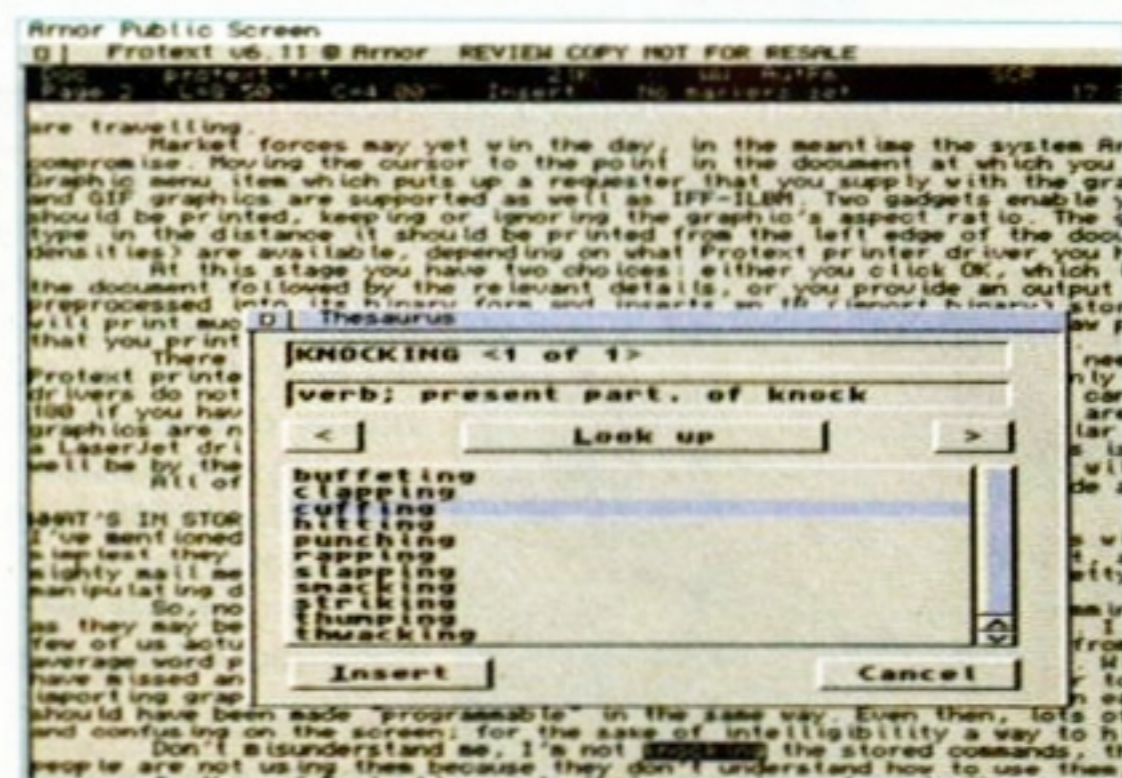
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There are a few snags with the graphics printing system which need

*The new spelling checker and thesaurus requesters are simple but functional. Cursor keys can be used to move up and down the list; Return puts the the highlighted word into the document.*



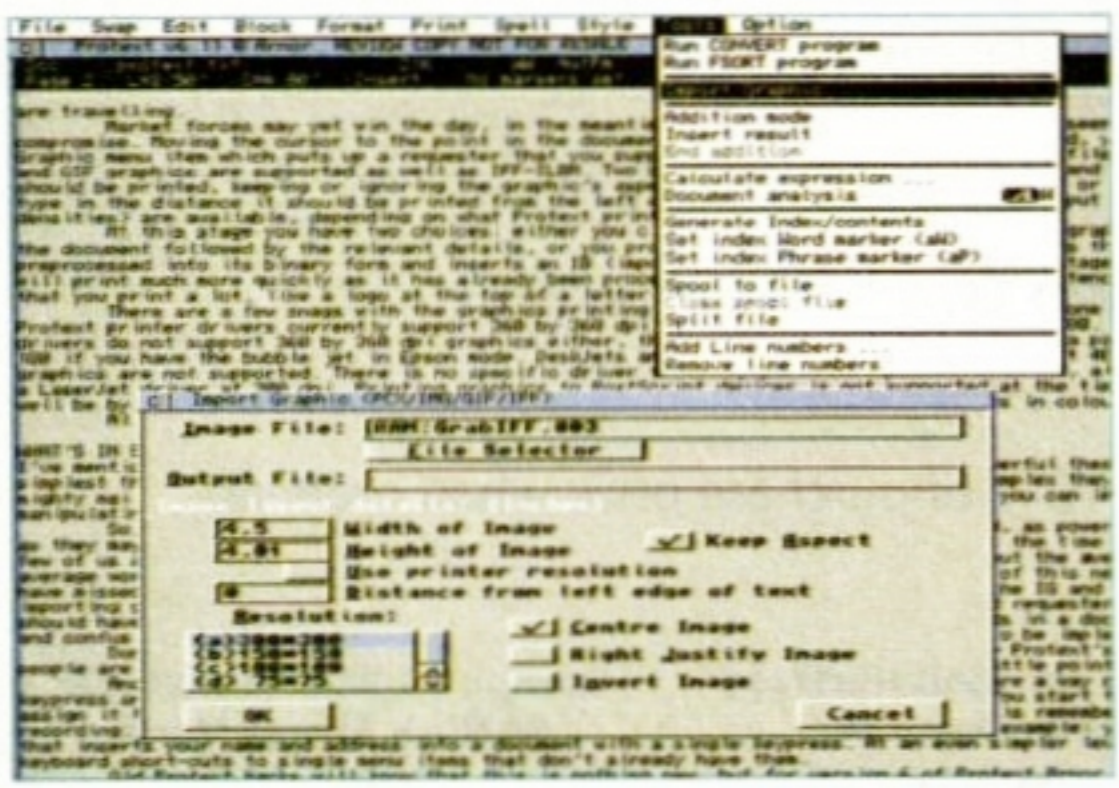
I've mentioned stored commands a few times and experienced *Protext* users will know how powerful these can be. At their simplest, they can be used to change page layout settings mid-document; at their most complex, they can be used to write mighty mail merge templates, stock control and invoicing systems.

Don't mistake me, I'm not knocking the stored commands – they are arguably *Protext's* greatest assets – but if people are not using them because they don't understand how, there seems little point in having them.

*While this macro may appear complicated, it was "programmed" by making Protext record a sequence of keypresses. Here, Alt-B has been set to delete all files in the current directory with a ".bak" suffix.*

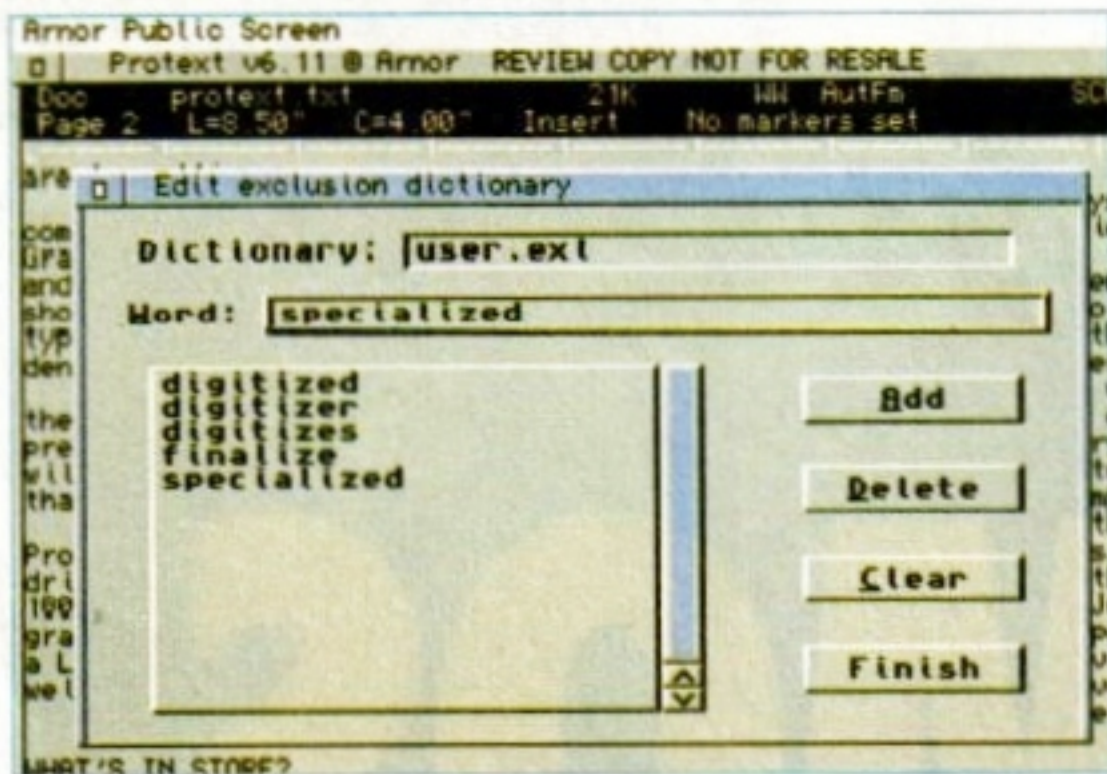
**E** or whatever), a glossary item has a name, supplied by you, and is executed by typing that name into the document (at any point) and then immediately pressing **Ctrl-Shift-G**, at which stroke the word you just typed gets expanded to whatever has been previously recorded for it in the glossary. Here's a useless example: you could record a glossary item called "s" that records the File/Save menu-pick and then, to save the current document, you could type letter "s" into it and immediately press **Ctrl-Shift-G**. The letter "s" will then disappear and the document will save with the current filename. A more practical example would be to create glossary items that expand to typesetting and style codes for your desktop publishing program.

Here's a handy tip: if you use the macro recording facility to assign the **Ctrl-Shift-G** keypress to (say) the F1



*The much requested Import Graphics feature. If Protext is to continue to be a major player in the Amiga market, this needs to be extended. A Preview Graphic option would not have gone amiss.*

Let's make no bones about it, the stored commands are a mini programming language, and, powerful and deeply wonderful as they may be, they turn a lot of people away from *Protext*. I mean, who's got the time to learn to program? Okay, a few of us actually enjoy the challenge and get our spare-time kicks from programming, but



The exclusion dictionary is very useful for excluding all but one spelling of a word that has multiple spellings, thus helping you to spell consistently throughout all your documents.

key, you don't have to use two hands to expand a glossary item.

Both functions have editors that enable you to alter, delete, load and save separate macro and glossary files, so you can set up any number of these for specialised use. Two special files called "protext.key" and "protext.gls" contain the settings that will be loaded at the same time as Protex itself. Macros and glossary items can be up to 255 characters long but, because the last function of a macro or glossary could be to call up another macro or glossary item, you can create some very long and convoluted macros and glossaries indeed. A word of caution here: it is possible, while linking macros or glossaries, to cause a macro or glossary to call itself, which would make the same thing happen over and over again. Currently there is no way to stop a macro or glossary during its execution and the only way out is to reset the computer.

## IT'S ONLY WORDS

Protex 6 comes with the same 110,000-word British English dictionary and 47,000-word thesaurus as previous versions but the spelling checker and thesaurus requesters have been tidied up to conform to the Workbench 2/3 look and feel. The old batch spelling mode, accessed from the command line, is still there for those of us who

prefer to get the job done quickly rather than wave the mouse around.

A new addition is the exclusion dictionary. This enables you to specify words as "bad", even if they are present in the main dictionary, which for copyright reasons cannot be edited. For example you may like to spell all your words that end in "ize" as

"ise". If you enter them into the exclusion dictionary, "ize" words will be flagged as badly spelt. Alas, nobody thought to build wildcards or an "exclude endings" into the feature, so you'll have to type the lot in one by one.

Praise be! The user dictionary also now has an editor, at last making it a quick and simple job to remove words that have been added accidentally, or by colleagues who can't spell.

Index and Table of Contents (ToC) generation is, as before, a powerful and flexible system which provides for phrases in the index as well as just words. Marking words for inclusion in an index or ToC is a laborious and time consuming job. The Protex manual suggests that index markers are best inserted when the text is being typed but many writers will find this a distraction and will want to leave it until the work is completed. Still, a fair amount can be achieved with Find and Replace.

## WHAT'S IT GOOD FOR?

With a program of this size it is inevitable that there will be much that is left untold in any review of it. Rather than finish this piece with a hurried list of unexplained features which would mean little or nothing, I thought you would be better served by a discussion of what type of

document Protex is good at processing.

For those whose main use for a word processor is to bash out words or to edit someone else's, Protex is simply adorable. It is fast and flexible, with more features than you can shake a publisher at. And its rulers and paragraph indent system make it quite easy to prepare scripts in columns.

Next to AmigaTeX, Protex 6 is the quickest and best way to produce a straightforward, professional quality reference manual, book (or similar) on the Amiga, providing you don't want colour and are hooked up to a decent printer, like the LaserJet 4, that has a fair number of scalable fonts. Diagrams, screen grabs and the like can be imported, the

main restriction being that no text can be placed to the right or left of a graphic, only above or below it.

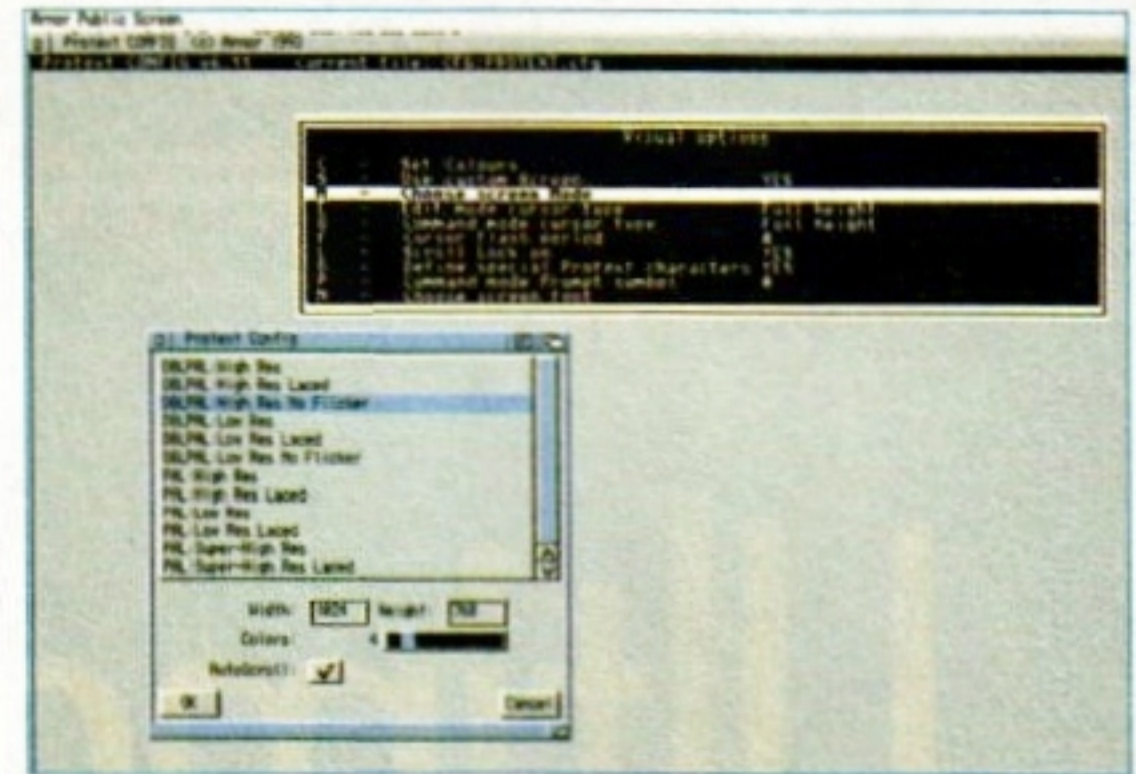
Tables are a problem. After creation, a table (lines, text, figures and all) generally needs to be treated as a single entity which can be "picked up" and positioned anywhere you like, pretty much as you would a picture in a graphics based word processor. Sadly, Protex can't do this. However, its centred tabs, decimal tabs and right-justify tabs make it easy enough to set text and figures in a tabular format and the line drawing mode (provided your printer supports it) means that you can even draw lines where needed.

Other than the aforementioned scripts, I can't honestly recommend Protex for producing anything in columnar format. While there is a print-in-columns feature and a "box" mode that enables you to cut and paste narrow columns of text alongside each other, neither feature works well with imported graphics and they are unlikely to give you the look you're probably after. It's fine for A5 sized newsletters – these are essentially manual/book style publications – but for A4 magazine-style newsletters, you really need a graphics based word processor or a desktop publisher.

For straightforward business use – letters, invoices, mail merge, labels, reports, price lists, stock lists and so on – Protex is perfectly adequate and at times superb.

If you're producing academic work and need to print footnotes (that is notes printed at the foot of each page as opposed to collected together and printed at the end of a document), Protex is just the job. Printing with maths symbols or with foreign alphabets is going to depend on what fonts are available (either built into your printer or as plug-in cards) but there's nothing to stop you redefining the default Protex font or creating and downloading printer fonts from within Protex itself. This is not a job for the novice but it can be done.

Protex is good for all these



They said it would never happen. Protex with a proper screen modes requester! And for those of you with graphics boards and quality monitors, Protex has no problem with large screen sizes.

things, and many more I'm sure. But you only have to look at the success of the rival programs – Wordworth, Final Copy and now Final Writer – to see that the Amiga market has almost completely moved to graphics-based word processors.

## SHOPPING LIST

Protex 6 £99

From: Arnor Ltd, 611 Lincoln Road,  
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Phone: 0733 68909

## CHECKOUT PROTEXT 6.11

### Features

More traditional word processing features than any other Amiga word processor but if you want WYSIWYG and pretty toolbars forget it.

### Documentation

Better presented and less daunting than with previous versions of Protex, the manuals are fine examples of what the program is capable of producing.

### Ease of Use

There's a fairly steep learning curve if you are new to word processing or computing, although the new settings panels do make Protex easier to learn than before.

### Speed

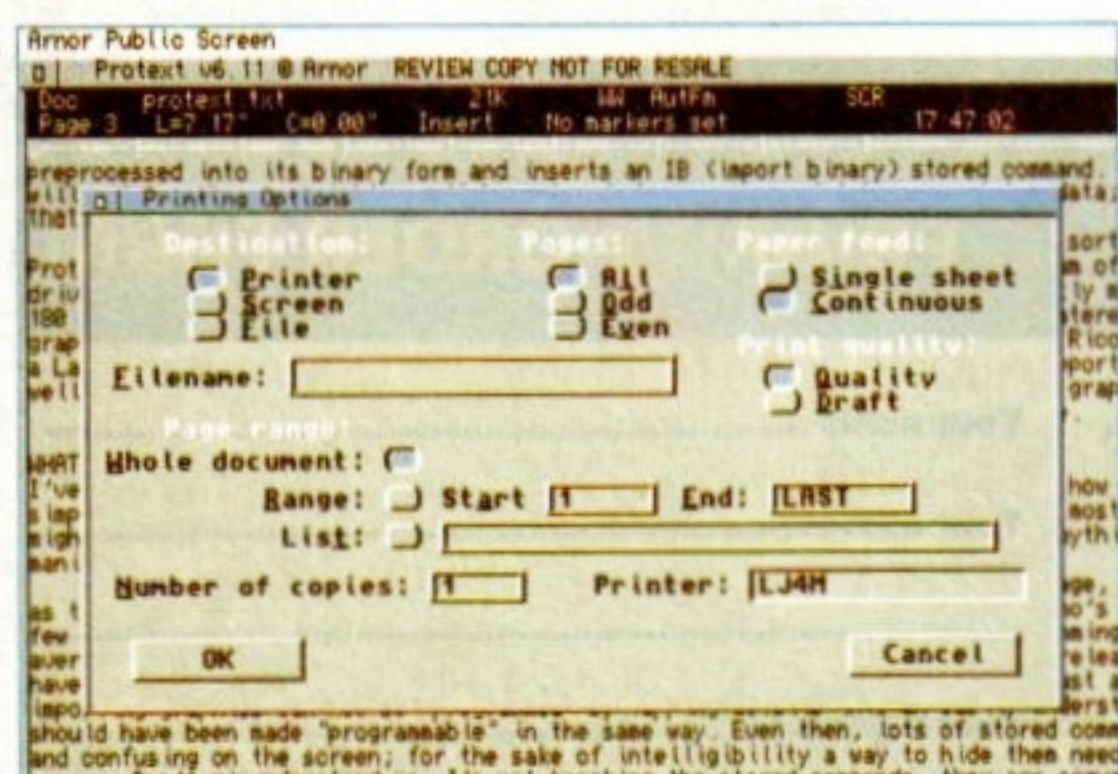
Do you want to see it again?

### Value for Money

Fair price for an excellent text-based word processor.

### Overall rating

Without going down the WYSIWYG and toolbar road, this is very nearly as good as it's going to get.



The Print requester is easy to navigate, although the "print to screen" option is not the WYSIWYG preview it needs to be. This is something that Arnor is still working on.

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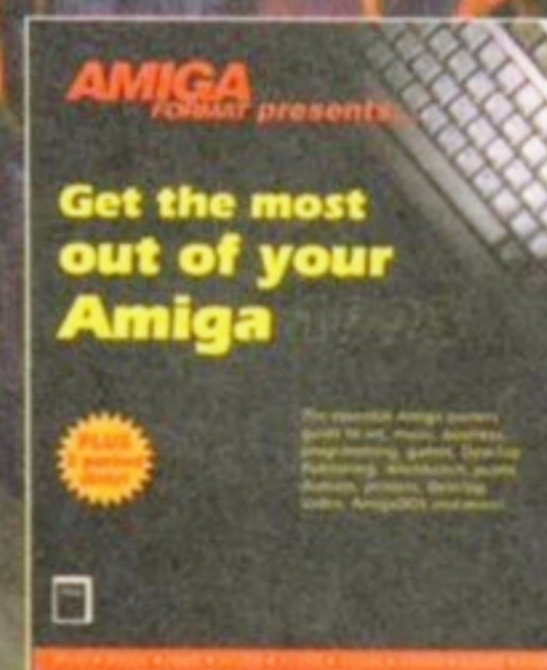
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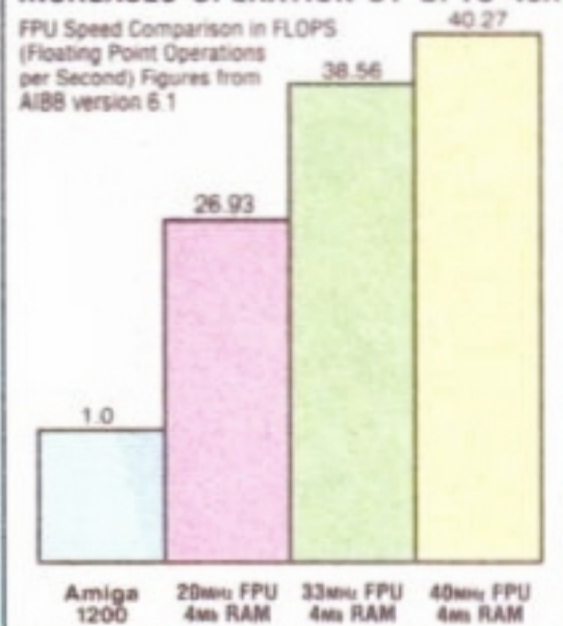
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The Amitek drive has been specially designed to meet the needs of Amiga users and has many deluxe features which are not included in other drives - check out the competition!

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- SWITCHABLE ANTI-VIRUS MODE
- 75MS ACCESS TIME

- DAISY CHAINABLE VIA THRU PORT
- LOW POWER USAGE
- NO NEED FOR EXTERNAL PSU
- COMPATIBLE WITH ALL AMIGAS
- 2 YEAR WARRANTY

	ANTI-CLICK	ANTI-VIRUS	STRONG METAL CASE	QUALITY SONY MECHANISM	ISOLATION SWITCH	2 YEAR WARRANTY
AMITEK	✓	✓	✓	✓	✓	✓
ZAPPO	-	-	✓	-	✓	-
CUMANA	-	-	-	-	✓	-

EXTERNAL DRIVE

# £59

INC VAT - DRI 1159



## 1Mb INTERNAL FLOPPY DRIVE

FOR AMIGA 500/500PLUS

The internal Amitek replacement drive is ideal for users who wish to replace their existing internal drive.

The pack features a high quality internal 1mb 3 1/2" drive mechanism for the Amiga 500/500PLUS. All you need to fit the drive is included, plus easy to follow fitting instructions and 24 months replacement guarantee.



INTERNAL DRIVE

# £44.95

INC VAT - DRI 3600



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FOR AMIGA 600

2 YEAR WARRANTY

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2mb CARD

# £119

INC VAT - RAM 6020

4mb CARD

# £179

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## MODULATOR

FOR ALL AMIGAS

2 YEAR WARRANTY



The Amitek External Modulator makes an ideal replacement modulator for all Amiga owners. Everything needed is supplied. Like all Amitek peripherals, it comes with an easy to follow manual.

- User friendly manual included
- High quality design
- FREE RF cable supplied

MODULATOR

# £34

INC VAT - MOD 4200



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FOR AMIGA 500/600

2 YEAR WARRANTY

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A500 - Low cost 512K upgrades, with or without a battery backed clock.

£18 £23

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Before you decide when to buy your new Amiga products, we suggest you think very carefully about WHERE you buy them. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals or software, or help and advice. And, will the company you buy from contact you with details of new products? At Silica, we ensure that you will have nothing to worry about. We can meet our customers' requirements with an understanding which is second to none. Complete and return the coupon now for our latest FREE literature and begin to experience the "Silica Service".

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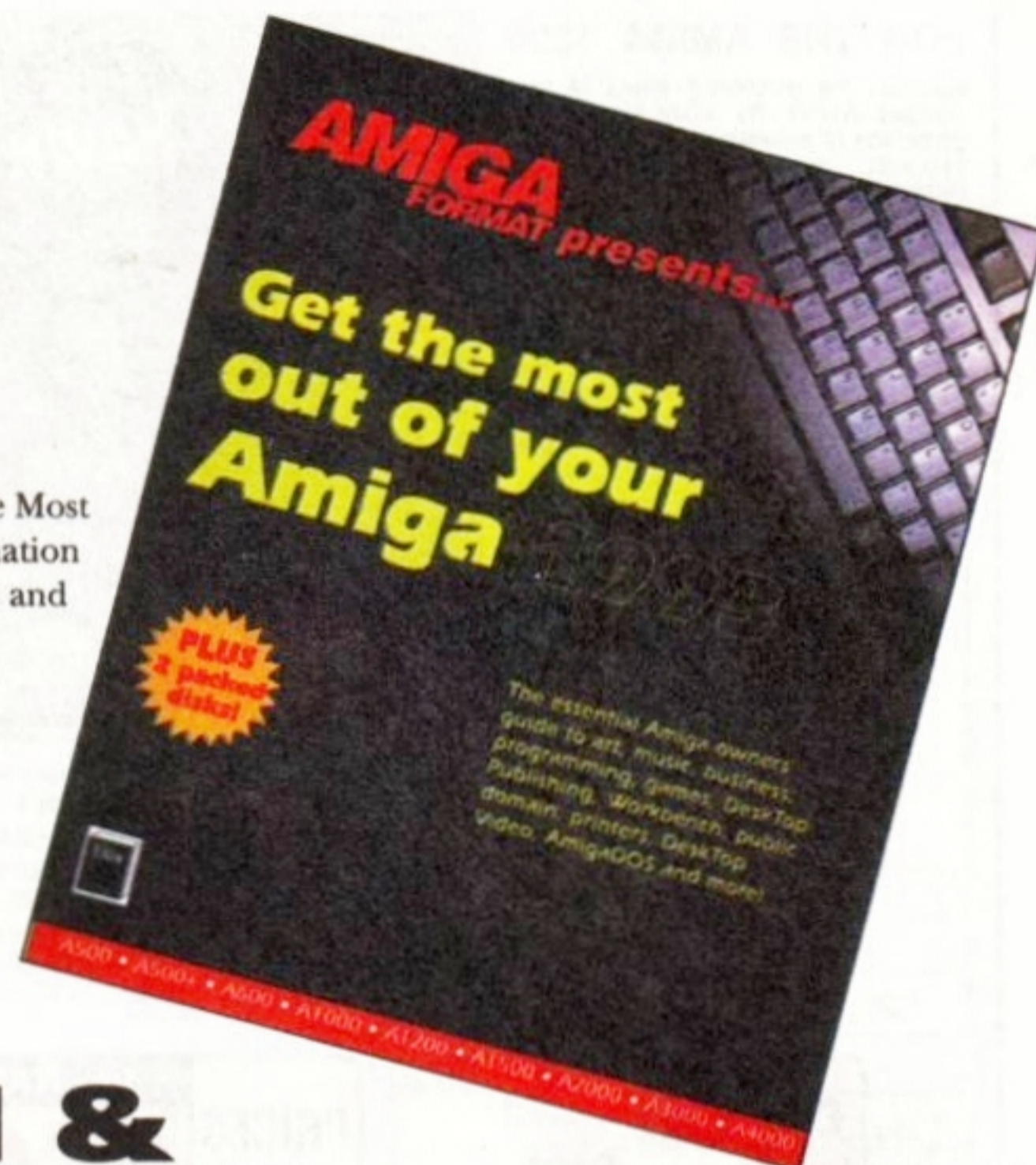
## GET THE MOST OUT OF YOUR AMIGA 1993

*— it's just as good in 1994!*

The smartest thing we did was to hire 10 independent Amiga experts to write a complete guide to every Amiga application, from desktop video to programming, from games to music, explaining the jargon, the techniques and the best software and hardware to buy. Thinking of getting a printer? A hard disk? More RAM, an extra floppy disk drive or an accelerator? We give you tips on what to look for and what to buy. And throw in a complete AmigaDOS 2 & 3 command reference plus two disks of top Amiga utilities!

The dumbest thing we did was call it 'Get the Most out of your Amiga 1993', because the information it contains is as useful now as ever. Do you and your Amiga a favour — get this book!

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## POCKET WORKBENCH & AMIGADOS REFERENCE

How do you use Workbench to copy files? How do you format floppy disks? How do you move things from one folder to another? If you've just got your Amiga, Workbench can be confusing — unless you've got expert help on hand.

This reference book has been made small enough to slip into a pocket, yet big enough to incorporate everything you need to know about Workbench and AmigaDOS. It's also been wire-bound so that you don't have to hold it open while you work — not everyone wants to type one-handed.

As well as help for beginners, there are sections on Workbench menus, preferences and the supplied Tools and Utilities.

While for advanced users, there's a full AmigaDOS 2 & 3 command references, listing all

commands in alphabetical order and quoting their function, syntax and some example uses.

We wanted to design the single most useful reference guide possible for serious Amiga owners. We think we've done it.

\* Contains some material also published in 'Get the Most out of your Amiga 1993.'

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**"ONE MAJOR FLAW"**

I am writing to demand a drastic re-think of your comparison between AMOS and *Blitz Basic* in Issue 33. The tests you performed were satisfactory apart from one major flaw: you said yourself in that same review that *Blitz* is a compiled only language, meaning that programs must be compiled before being run, which obviously dramatically increases the speed at which they are run. The problem is that AMOS code is not compiled before it is run, unless you compile it beforehand with the separate compiler. As it is, by not compiling AMOS you gave *Blitz* a head start before the race had even begun.

Also, can you give me the address of the PD library that you got *PowerData* from, because you forgot to include it, and automatic file compression sounds good?

CJ Heelas  
Lowestoft  
Suffolk

No drastic rethink needed – the AMOS program was compiled before being compared with its *Blitz* counterpart (though perhaps we should have said so). The truth of the matter is that *Blitz* is a damned sight quicker than AMOS.

We got *PowerData* on disk FF841 from PD Soft ☎ 0702 466 933. Their address is: 1 Bryant Avenue, Southend-On-Sea, Essex, SS1 2YD.

**"RAY-TRACED COVERS"**

After opening my copy of *Amiga Shopper* I usually look at the competition results, just to see who the winner is, and maybe (just maybe!) to see if I've won anything.

I have always longed for a scanner (I write a small publication

with no pictures), so you can imagine how surprised I was to see I had won the top-of-the-range scanner in your February issue. I cannot mention how grateful I am both to you and Epson. Out of interest, what chance did I stand of winning the competition?

One of the main reasons I used to look forward to the next *Amiga Shopper* was the cover. Two issues in particular spring to mind: December '92 and June '93. Both were ray-traced, and were absolutely stunning. Is there anyway you can return to the ray-traced covers? They really made *Amiga Shopper* stand out at the newsagent's shelf.

Last question: If *PageStream 3* is better than *Quark XPress*, will you switch to the Amiga 4000/040 to create your magazine?

Nathan White  
Walsall  
West Midlands

Well, we're glad you like your prize. As to your chances of winning, they were particularly small for that competition, as we had such an overwhelming response. I don't know exactly how many entries we received, but it must have been several thousand.

Thanks for your comments about our covers. I must say that deciding on cover images has been one of the most enjoyable parts of mine and the art editor's jobs, and one in which we've taken particular pride. So you'll forgive me, I hope, if I get all defensive and say that I think the covers have actually improved since the issues you refer to (though they were pretty damned good, too). We'll use ray-tracing again, if and when the subject demands it, but in general

# Talking Shop

**Have your say, and perhaps win £25 into the bargain! Send your missives to: "Talking Shop", Amiga Shopper, 30 Monmouth Street, Bath, Avon BA1 2BW.**

we find that painted illustrations allow us more freedom.

In answer to your last question: no, we will not use Amigas to create the magazine. All of Future's magazines are created on Macs, linked together in a huge network, so that transmitting information between machines and to our production facilities is simplicity itself.

**"A FEW PROBLEMS"**

I had a few problems with the recent review of *Picasso II* in *Amiga Shopper*, which had some worrying inaccuracies.

First of all, the *Picasso* does not require an expensive multisync monitor. It is preferred, but the board can be customised to drive cheap VGA monitors, expensive multisyncs and even the good old 1084S (at 15KHz). This was a serious oversight on your part.

Secondly, the reviewer mocked the fact that the manual warns about the possible danger of sending a damaging signal to a monitor. This is a sensible and necessary precaution. The board is customised to reflect the optimum frequency. You must warn the user.

Overall, the review was positive, but I would be grateful if you could address these points.

Paul Lesurf  
Blittersoft  
Milton Keynes

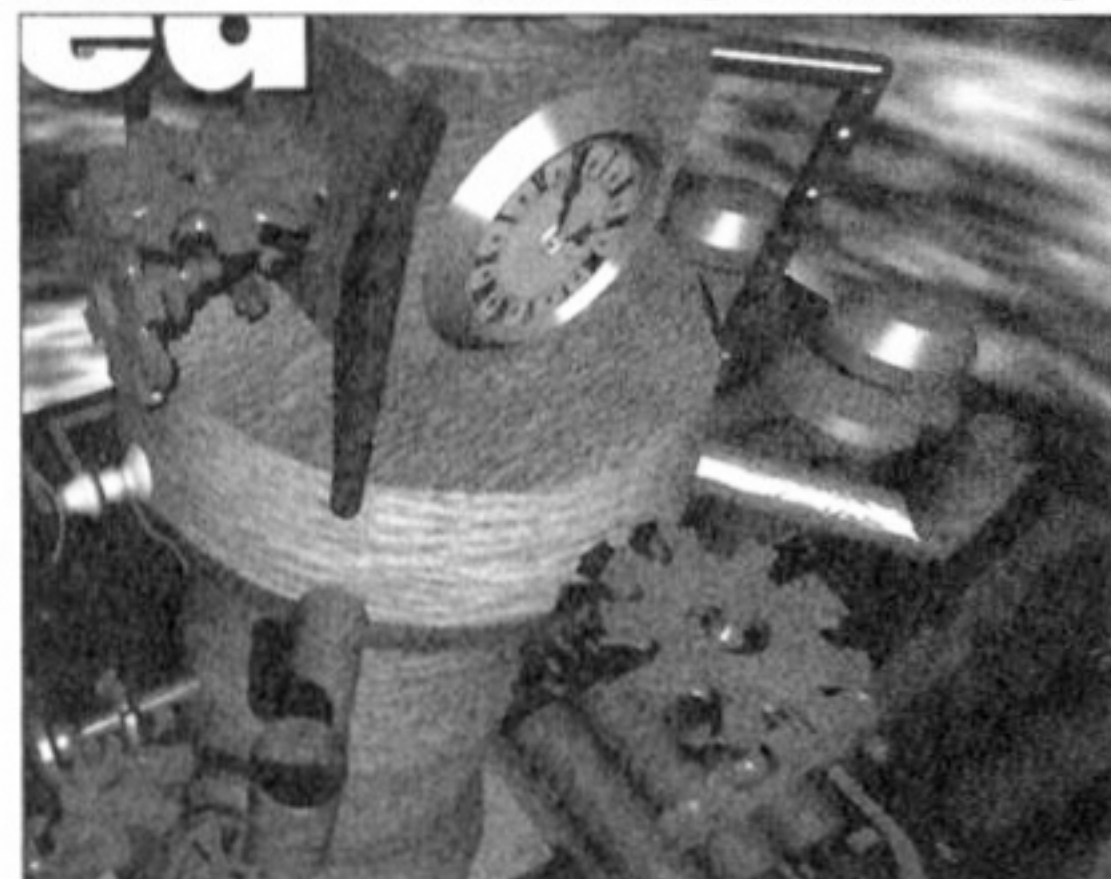
**"BE LEFT BEHIND"**

I think *Amiga Shopper* is losing touch with many of its readers; it

seems I am constantly being told to upgrade or be left behind.

Personally, I do not wish to upgrade to 32-bit technology as my A600 fulfills my requirements.

As interest grows in advancing



The cover image from our June 1993 issue, produced by Henri Bujko of Alternative Image. Isn't it nice?

Amiga technology, *Amiga Shopper* devotes more space to the subject. This, by definition, means you are increasingly ignoring the needs of people with "old" Amigas. May I remind all those with Amiga 1200s that you too will be in my situation in under 12 months.

I have a suggestion which, if implemented, would bring about significant change. I therefore ask you to put it to your readers: would you prefer *Amiga Shopper* split into two magazines – Amiga 16-bit and Amiga 32-bit?

M Ford  
South Norwood  
London

I'm surprised you think that. We do our best to ensure that the vast majority of our articles cater for all Amiga owners. What do the rest of you think?

AS

## MIGHT HAVE BEEN



£25 WINNER

I was very interested to read, in the latest issue, Mark Smiddy's article *Why Not Word For Workbench?*. Sadly, it's a case of what might have been.

The Amiga does have the reputation of being, primarily, a games machine and unless, or until, the big boys like Microsoft bring in Amiga versions of their top notch programs then that image will be retained. Softwood, with *Final Writer*, have gone a long way to redress the balance, but there is still a long way to go. I know of several people who have deserted the Amiga for the PC because of the quality software.

One of the PC programs that I very much wish would appear for

the Amiga is *Autoroute*. True, we do have *GB Route*, which is pretty good, but it does not really compare with *Autoroute*. Some considerable time ago I contacted the distributors of *Autoroute* to see if an Amiga version would be forthcoming, but was told that this would not be the case because of the high incidence of piracy amongst the Amiga fraternity. Whilst that may have been true at the time, it certainly is not now – piracy is as rife in the PC world as it is in the Amiga world. With rocketing sales of the A1200 I would have thought an Amiga version would be well worthwhile for the distributors.

DW Joslin  
Bridgwater  
Somerset

# SOFTWARE for free

**Ian Wrigley bids goodbye to the world of Amiga PD, shareware and licenseware with a round-up of his favourite programs of the last 24 issues.**

**A**nd it's goodbye from me... Yep, this is my 25th PD column and, sadly, my last. So I thought that I'd take a look back over the last couple of years, and list my top selections of PD. I started back in issue 11, and since then I've looked at hundreds of utilities, business packages,

fonts and clip art collections. Some have been superb while others have been truly dreadful.

The next few pages feature the pick of the crop as well as a few of the total turkeys that have helped to liven things up along the way. At the very least, getting hold of the programs on the following five pages

## BEGINNERS BEGINNERS START HERE BEGINNERS

### What is PD?

PD is a general term which many people incorrectly use to refer to all freely-distributable software. In fact, PD (which stands for Public Domain) software or "freeware" is only one branch of this area; the other main one is shareware.

Essentially, freeware may be copied and used by anyone, although some authors place restrictions such as not allowing a PD library to charge more than a certain amount for the disk.

Shareware, on the other hand, should be treated more like commercial software. Although you are allowed to copy and pass around shareware programs, if you like one then you should pay the requested fee to the author – it's normally around £15 or less, and often entitles you to an upgraded version or a printed manual. Paying your shareware fees encourages software authors to write more programs – and if they don't, the Amiga scene will be a poorer place. Don't think that you're paying money for nothing, either – often hundreds or even thousands of hours of work have gone into creating a program, and it's only right that the programmer receives some reward for his or her hard work.

The third branch of software that we cover here is called

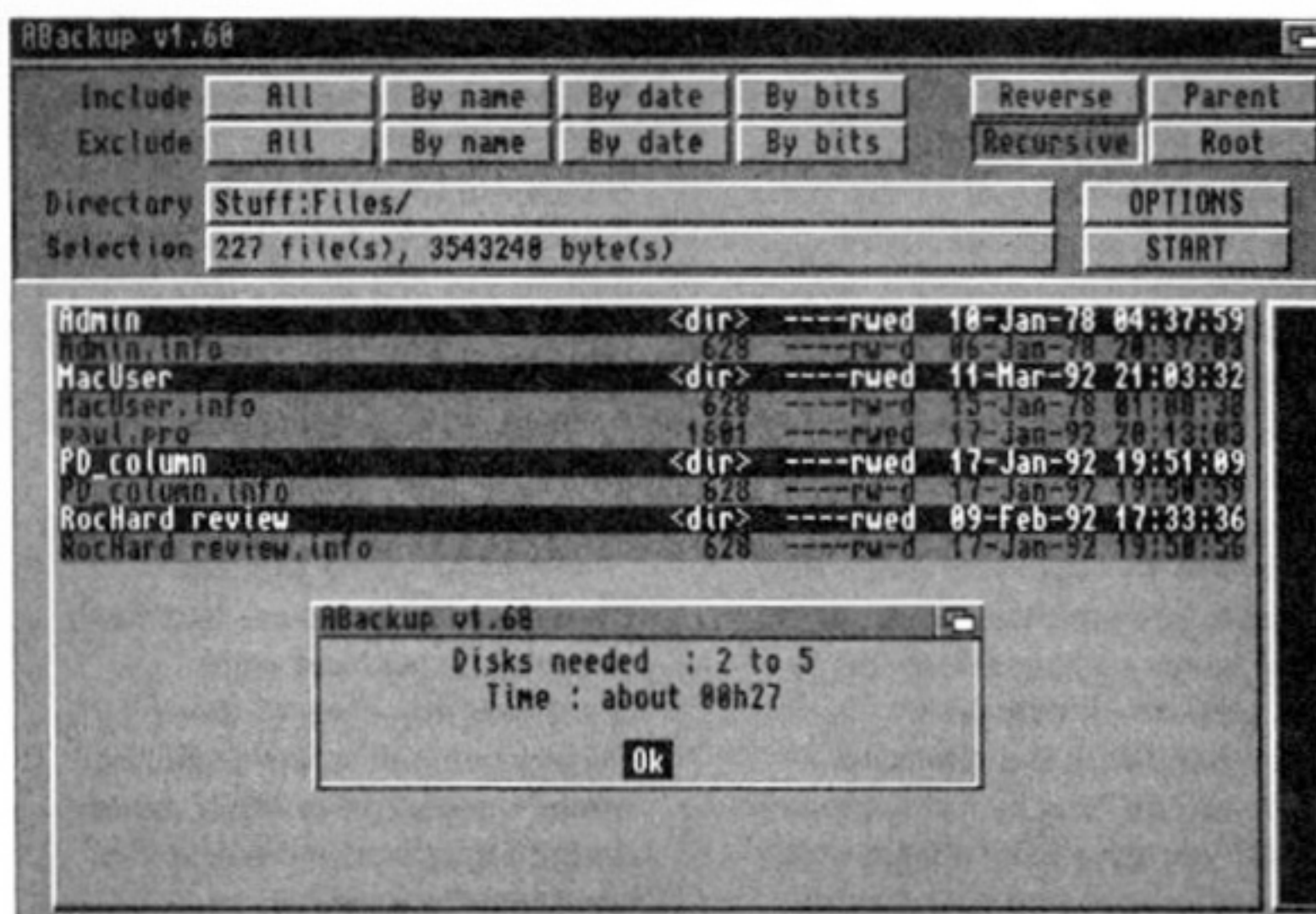
licenseware. This is a form of shareware which is licensed to one (or more) PD libraries. In essence, when you buy a licenseware program you are buying shareware and paying the license fee at the same time. For this reason, you should treat any licenseware that you buy exactly as you would treat a piece of full-price commercial software – don't pass it around to your friends. You've only bought the right to use it yourself.

### Can I pass other people copies?

Yes – that's the way that PD reaches a wider audience. Just make sure that you have followed the author's requirements for distribution. These are normally things like not charging more than a certain amount for the disk, not altering the program, or making sure that all the original documentation is included on the disk.

You can also pass on shareware – but not any registered copies of programs. If, when you pay your shareware fee, the author sends you an improved version of the program, then be careful not to give that out. Only pass on unregistered shareware.

You should not, of course, pass on licenseware – it should be treated in the same way as registered shareware.



**ABackup:** periodically backing up your hard disk is absolutely essential, and this is one of the better ways to do it.

should give you an 'instant library' of some of the best PD and shareware available for the Amiga. Most of the programs are available from major PD libraries; those that are only available from one or two, or directly from the author, have contact details listed, and licenseware programs have their Central Licenseware Register number where I could find it.

Don't stop sending in shareware and PD programs for *Amiga Shopper* to review – a new reviewer is already in place and chomping at the bit to check out your masterpieces. Just send them to *Amiga Shopper* at the usual address, sit back and wait for fame to come your way...

### THE A64 PACKAGE

Nostalgia fans will love this program, which is a superb emulator of the Commodore C64 computer. Because it's illegal to copy the computer's ROM, the author – Cliff Dugan – has written his own ROM emulator, but registered users of the program receive a program which will allow you to download the C64's ROM to floppy, so that you can be guaranteed 100% compatibility. Registered users also receive a hardware interface which allows you to use your C64's disk drive and

printer with the Amiga (useful, given that you've just dumped the contents of the ROM to a 5.25-inch floppy...).

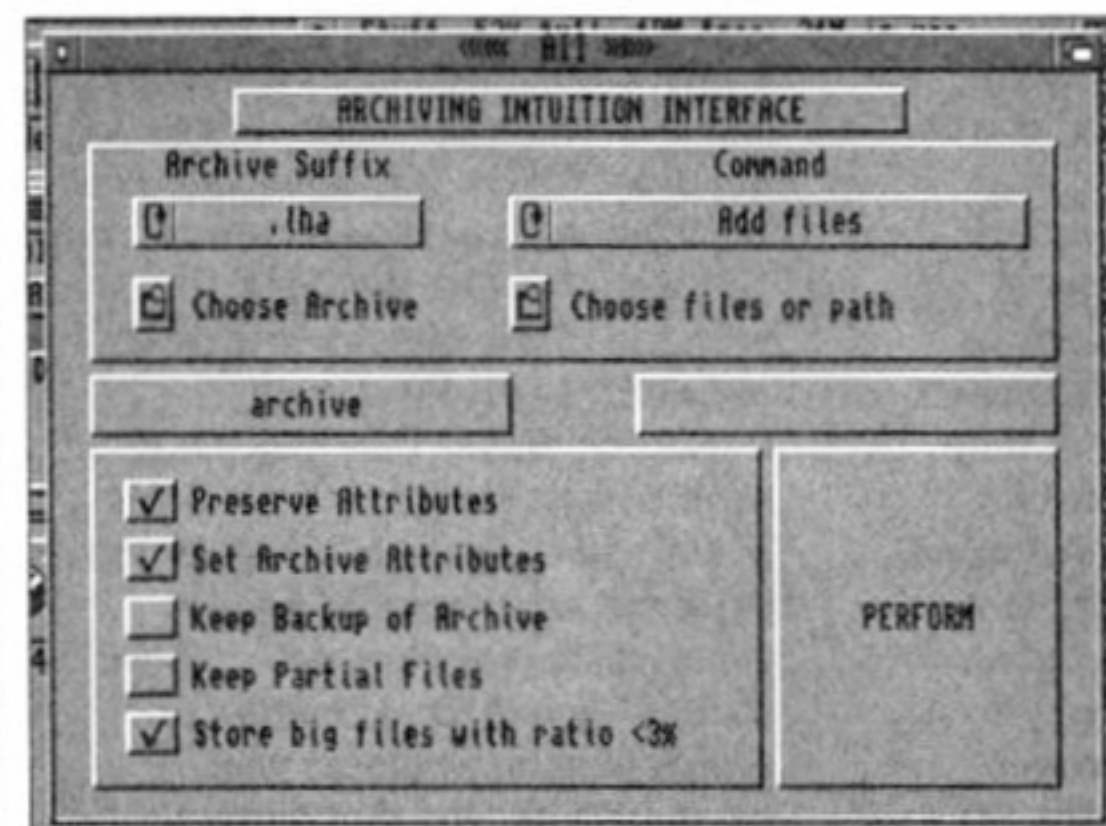
### ABACKUP

Backing up your hard disk is an important procedure yet it's something that most people just don't bother doing. At least, they don't bother until it all goes horribly wrong and all their data is lost.

The problem with making backups is that it's just so painfully boring. You sit there, swapping disks, conscious of the fact that you must have forgotten at least one vital file as your mind wanders. *ABackup* might be the answer to your prayers. It's a powerful backup utility, which takes the hassle out of the job and goes about its business efficiently and effectively. There are some neat features which make life easy for the user; for example, if you have two floppy drives you can get the program to use them in turn, writing the first bit of data to **df0:**, the second to **df1:**, the third to **df0:** and so on. That way, you can just swap disks without having an annoying requester on the screen every few seconds. Selecting the files to be backed up can be done in a range of ways, including by name, by date, and by

the setting of their flags. The program will compress the data as it's working if you want – useful if you want to economise on the number of floppies used and you're not worried about the backup taking longer.

All in all, *ABackup* is an easy-to-use, efficient backup utility. Now you've no excuse for losing data when your hard drive takes a nose dive.



**Archiving Intuition Interface** is a brilliant utility for putting a user-friendly face on those otherwise oh-so-complicated archivers such as Lha.

## All

*All* stands for *Archiving Intuition Interface*, and puts a friendly front-end on notoriously awkward file compression utilities like *LhA* and *LZH*. Rather than having to open a Shell and type in complex command line arguments to get your files compressed, *All* lets you select the files via a standard Intuition requester, choose what to do with

document viewing package created by Commodore. It supports 'hot links', so clicking on a highlighted word or phrase will automatically take you to the relevant section of the document. More and more authors are releasing their documentation in *AmigaGuide* format, and Commodore finally decided to make the viewer available for free on Fish disk 870. If you're

planning to check out a lot of PD and shareware, this is an essential program to own.

## AMIGA HOLICS DISK MAGAZINES

*Amigaholics* is one of the most established Amiga disk magazine publishers around, and the contents just get better and better as the months go on. The whole thing is

packaged up with a professional looking front-end which means that you can read articles without ferreting around through several folders. The reviews and articles are always intelligent, well-researched and thought-provoking.

*Amigaholics* is the model of a consistent, high-quality disk magazine; if you haven't seen an issue yet, you should write for details immediately, to: Kevin Bryan, 49 Coutts House, Charlton Church Lane, Charlton, London SE7 7AS.

## APRF2

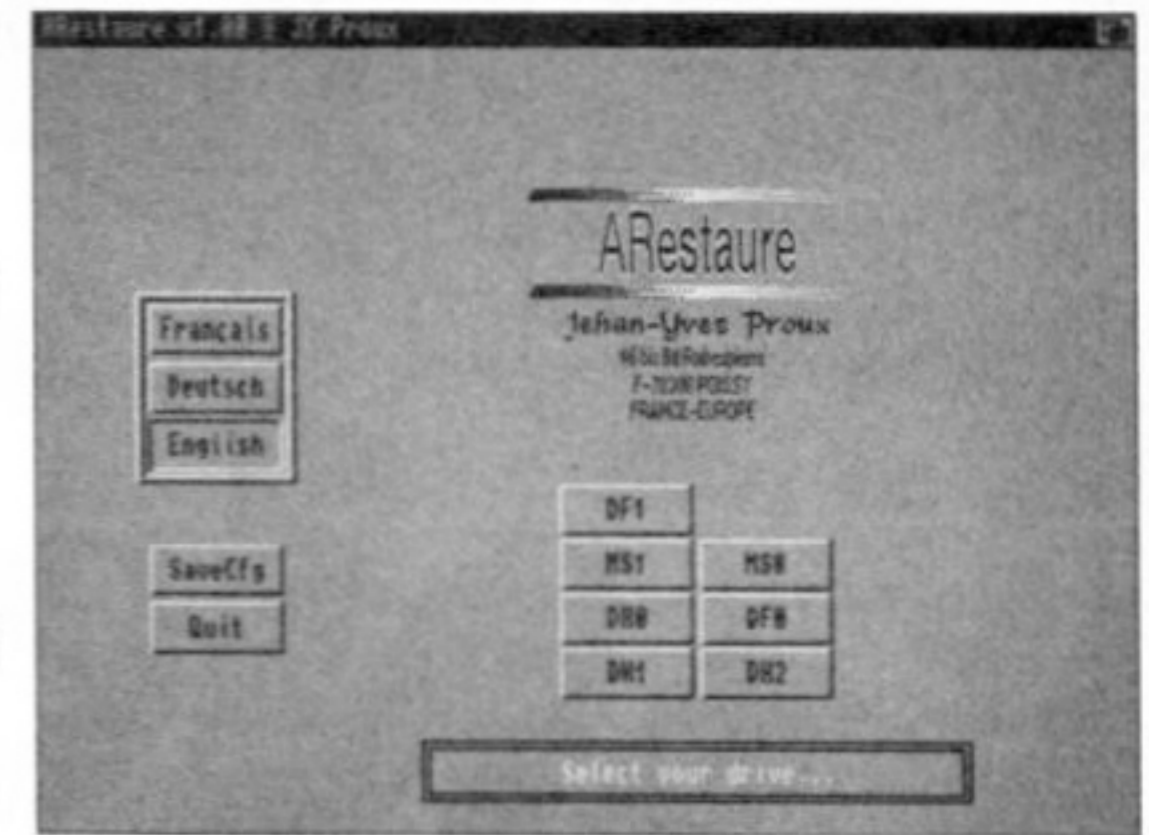
If you don't have an all-singing, all-dancing word processor then the chances are that your printed output doesn't look particularly spiffy. Well, *Aprf2* will solve that little problem for you. It's described as "a tool for managing your print output" and

supports parameters like left and right margin settings, multiple columns, headers and footers, multiple copies and even a preview window which shows you what your document will look like before you commit it to paper. If you need elegant-looking output, this will do the job.

## ARESTAURE

If you've ever thrown away a file and immediately realised that you trashed the wrong one, *ARestaure* could save your bacon. It's an 'undelete' routine which works with both OFS (Old Filing System) and FFS (Fast Filing System) disks, and should let you recover files that have been deleted both from the Workbench and from the Shell.

Of course, it's not perfect — no such utility is — but if your hard disk isn't full to bursting, and the file was



*We've all done it — deleted files by mistake. Now, with ARestaure, you've got a fairly good chance of resurrecting them.*

interface, data entry is simple, there's *AmigaGuide*-style on-line help and there's support for direct linking with an image viewer if you have digitised pictures of people on your Amiga. Its only real limitation is that it will only support 999 people per file but that aside, it's an excellent application and well worth looking at.

## BLUE ROSE FONTS 3

If you need high-quality 'display' fonts for titling a video, a demo or just a piece of artwork, then look no further than this excellent collection by Eddie Barry. There are loads of different fonts on the disk, which are displayed as a slideshow if you let the disk auto-boot. When displayed like this, they appear with graphical backgrounds but it's perfectly easy to extract just the fonts

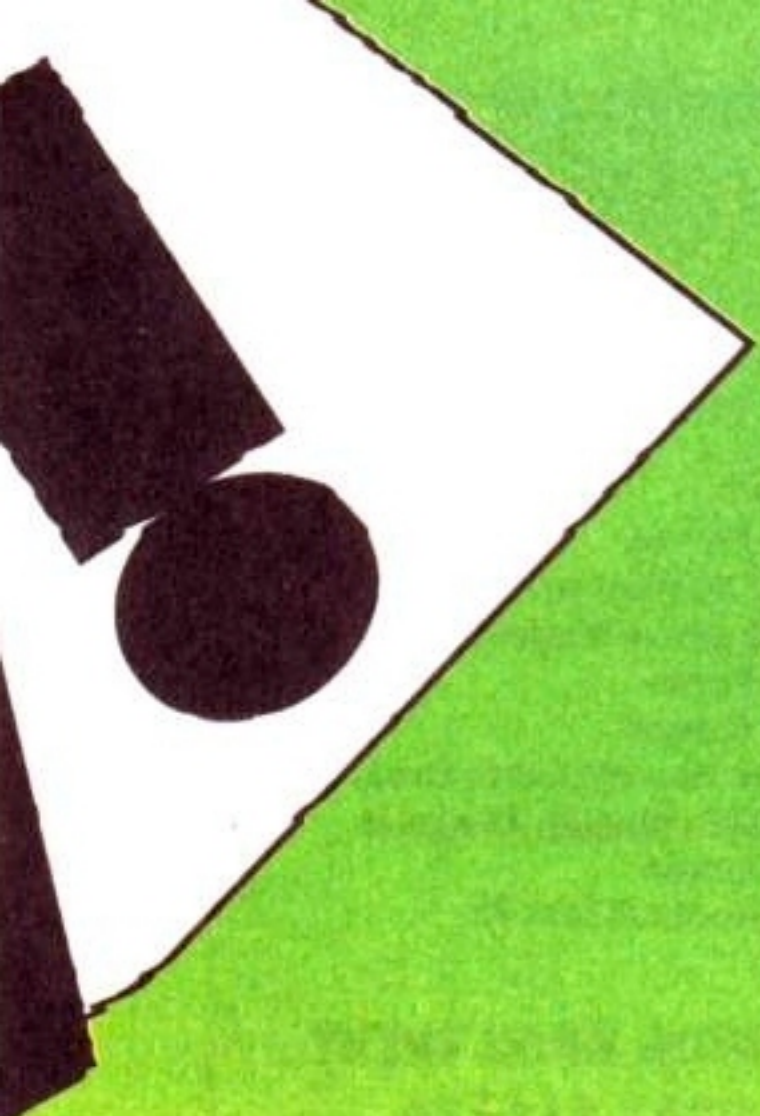
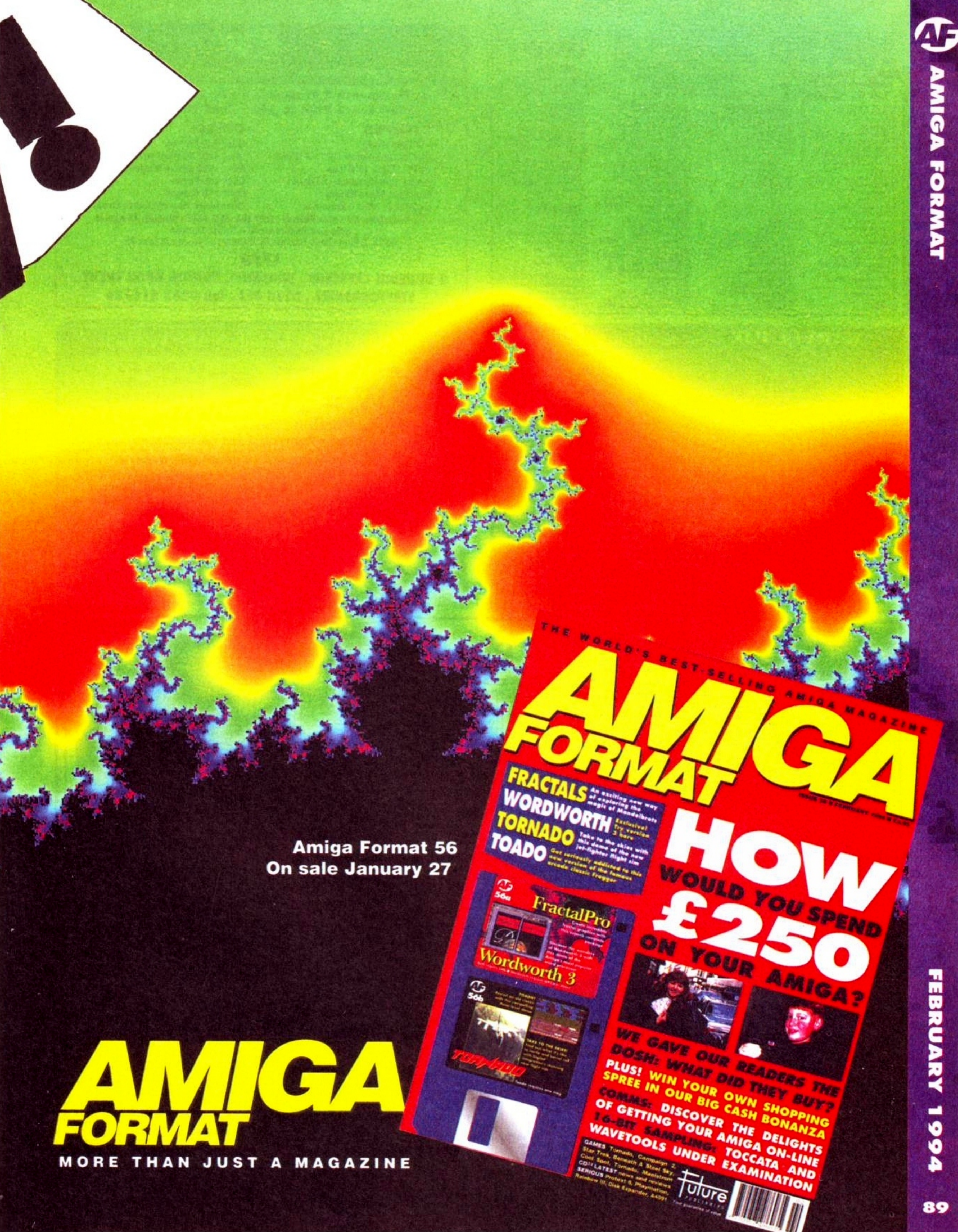




# We're So Pretty

Mandelbrot's, fractals, chaos mathematics. Call 'em what you will, there's no denying that Benoit's sums result in some pretty spectacular, and spectacularly pretty images. This month, Amiga Format delivers you the power to create these pictures on your own Amiga.

Stuck to the front of the fact-packed February issue (on sale January 27) is a complete copy of Daniel Wolf PhD's *FractalPro 4.0*. Get it!



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# GET IN CONTACT!

If you've written – or discovered – any PD, shareware or licenseware that you think should be reviewed in these pages, or if you've got any other comments or suggestions, write to Ian Wrigley c/o Amiga Shopper, 30 Monmouth Street, Bath BA1 2BW. Alternatively, you can contact Ian on cix as 'iwrigley', or on the internet as 'ian@vampire.demon.co.uk'.

continued from page 87

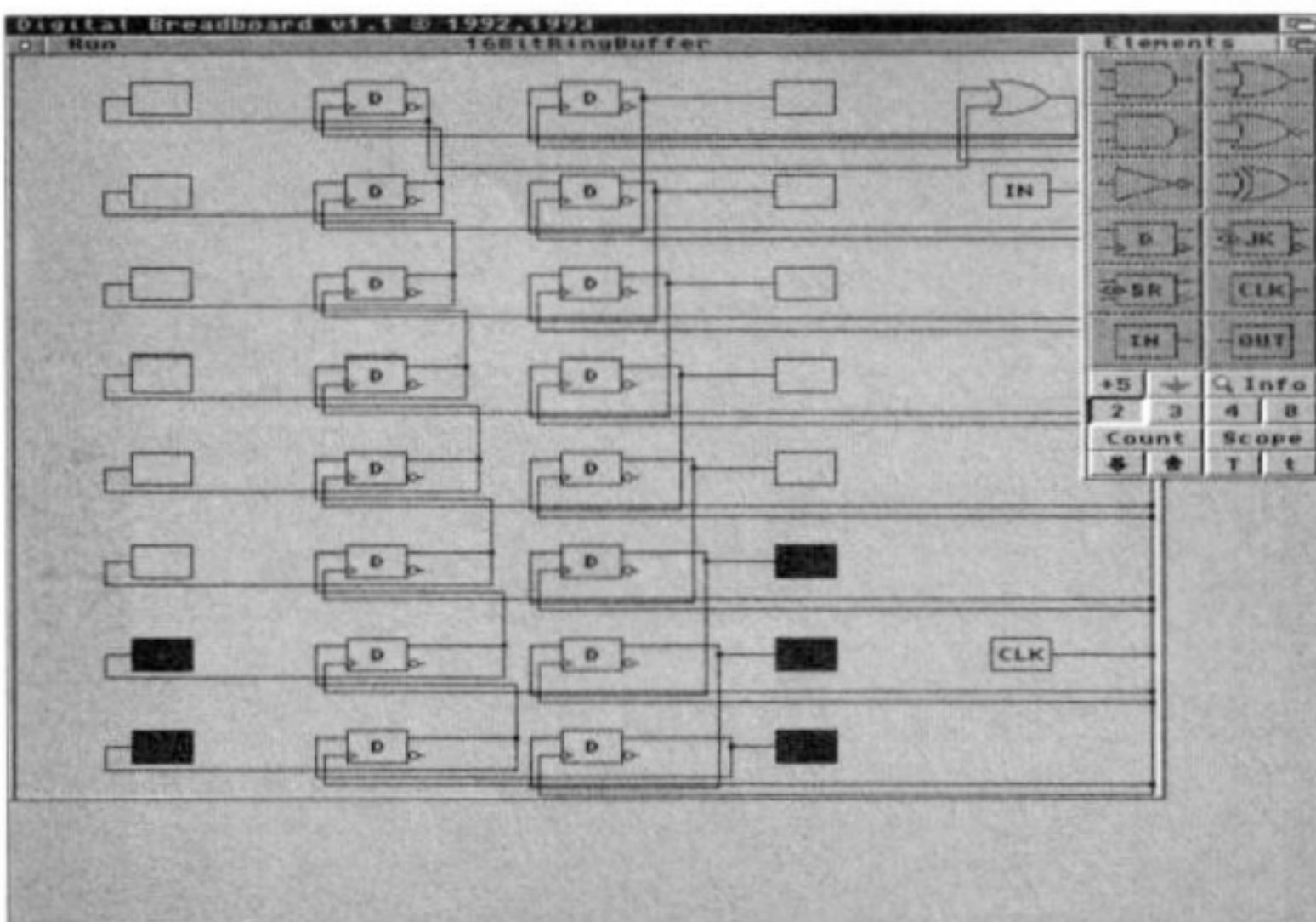
## CASS 1.1

I know, I know, this isn't the most Earth-shattering program ever, but it does its job and it does it well. Cass creates cassette labels and outputs them to any Amiga-compatible printer. I know that Home Taping Is Killing Music but don't we all record the odd copy of our albums so that we can listen to them on the Walkman on the way in to work? Anyway, Cass produces professional-looking labels for the case, so you don't have to suffer the embarrassment of hand-scribbled, illegible notes. I use it all the time.

## DBB

DBB is short for *Digital Breadboard*, and is a digital logic circuit simulator written by Dan Griffin. It's an excellent program, and is a must for anyone involved in logic circuit design – students, physicists, Nobel prize candidates...

A tool palette of elements such as **NOT**, **OR**, **AND** and **NAND** gates floats on the screen; you place these elements on the main layout screen and then connect them together by clicking on the output of one and the input of another. Input devices can be switches or 'pulsers', which kick out a signal at specified time intervals, and there's even a four-channel oscilloscope simulator, which you can connect to various parts of your circuit to see that everything's working the way you thought it was.



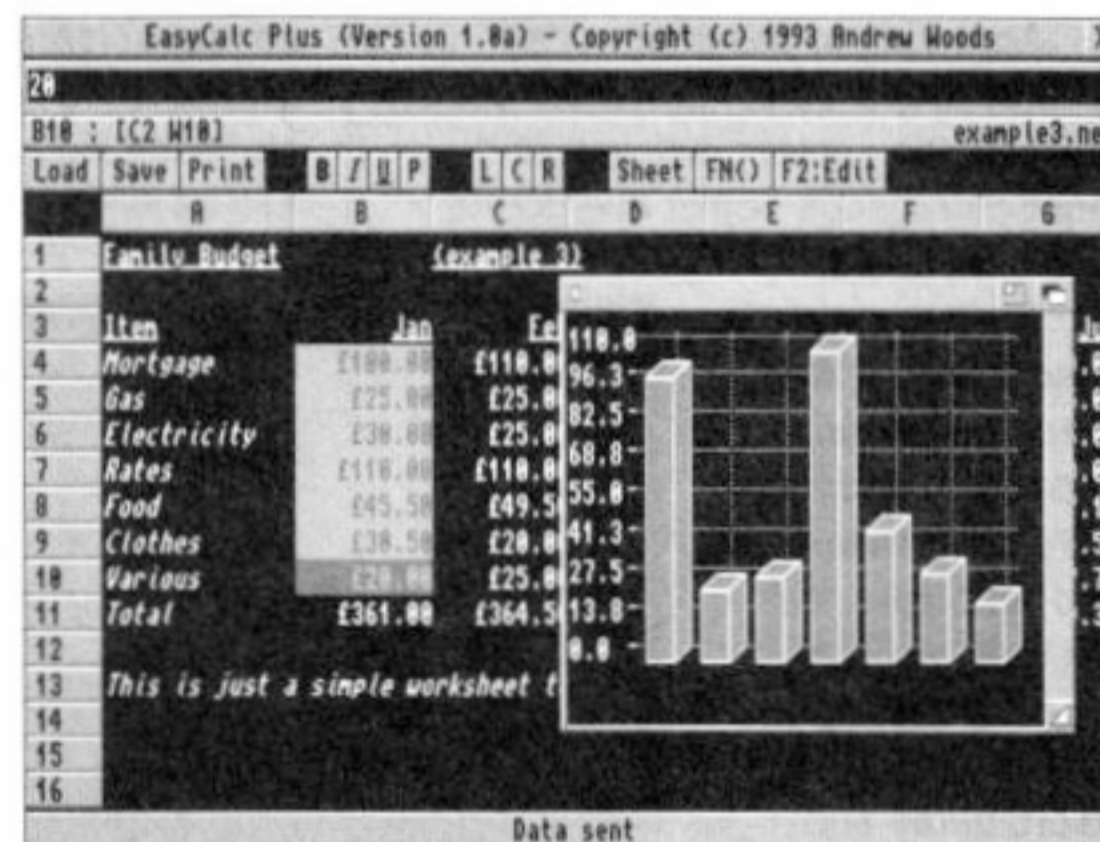
*Digital Breadboard is an excellent electronic simulation package, complete with a tool palette containing NOT, OR, AND and NAND gates.*

Since DBB was released (on Fish disk 844) a couple of other, similar programs have appeared, but this is still the best by a long way.

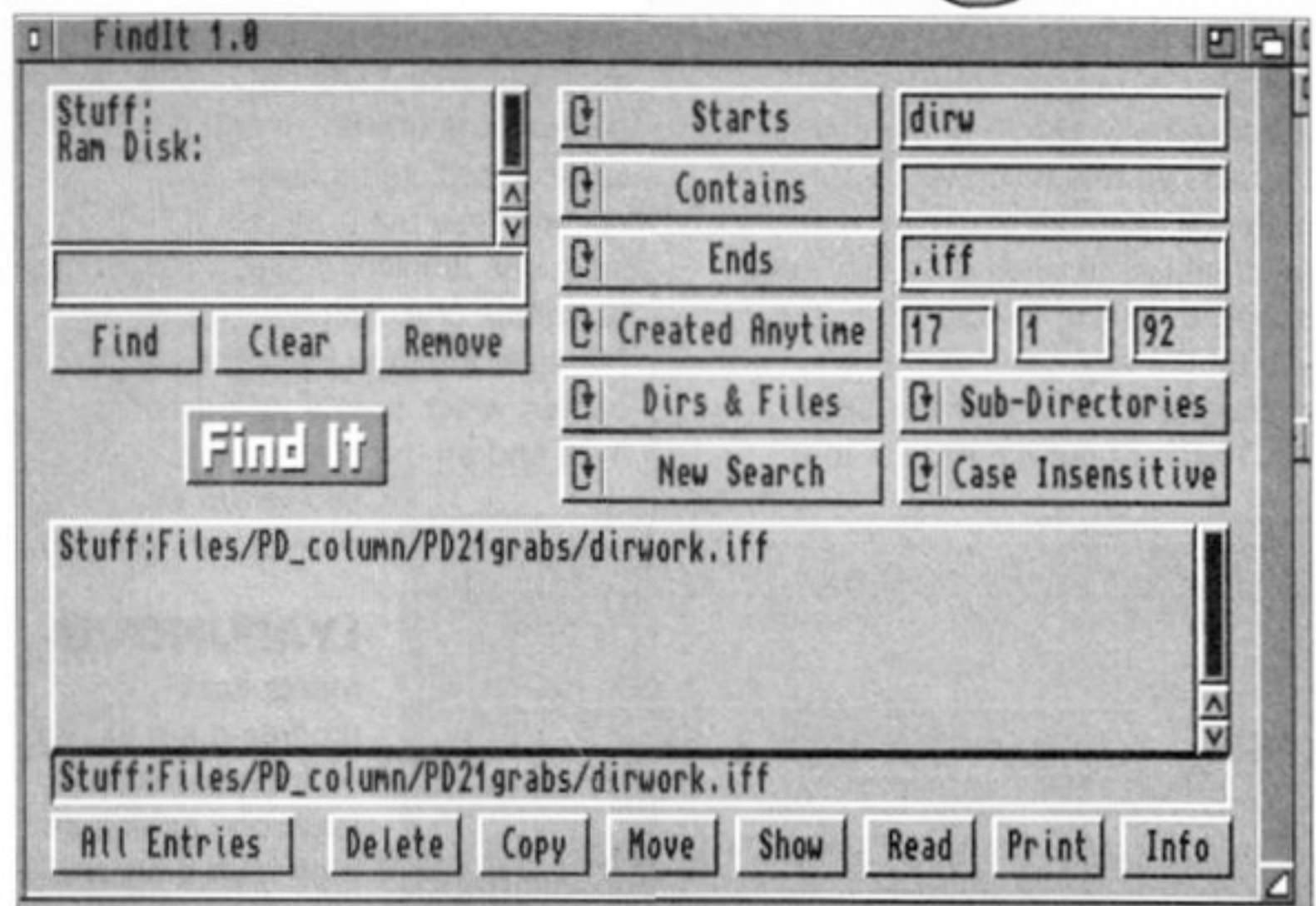
## EASY-CALCPLUS

This is the best shareware spreadsheet available on the Amiga. Indeed, it probably rates as one of the best pieces of shareware around. It was written by Andrew Woods and includes almost all the standard Lotus 1-2-3 functions (1-2-3 and its clones are the de facto spreadsheet standard in the PC world) It has a function browser so that you don't have to remember the cryptic name – instead, you just select whichever function you require from a scrolling list. It also has an add-on feature, cutely called a *DreamLink* module, which enables you to create charts based on your data.

I've seen spreadsheets on most computer platforms (including DOS, Windows, Unix and Macintosh) and *EasyCalcPlus* is up there with the best of 'em. It's only £15 shareware and is worth far more. As I said in my original review, "for goodness' sake send in your shareware fee – we can't afford to have talent like Andrew's migrating to the commercial world!"



*EasyCalcPlus is quite simply the best shareware Amiga spreadsheet available, and rivals commercial packages found on the PC and Mac.*



*Looking for a utility to help you look for a file on an overcrowded hard disk? Then look no further than FindIt.*

## FALSE

If you're a tech-head, you'll love *False*. According to its creator Wouter van Ortmeressen, it's a programming language designed to "look cryptic and fuzzy". Programs in this freaky

than competently plugs that hole in the operating system.

## GRAPH PAPER

You know how it is. It's Sunday night, you're doing your maths homework and suddenly you discover that the teacher has told you to plot some graphs. But – tragedy – the shops aren't open, and plotting graphs while you're travelling on the school bus in the morning is guaranteed to get you an F. *GraphPaper* to the rescue! It can create just about any sort of graph paper that you can imagine (and some that you can't), and then output it to your printer.

At least, that's the only scenario I can think of that justifies the existence of this particular utility...

## KCOMMODITY

Whatever you want to do, you're bound to be able to find a Commodity to do it. Whether it's blanking your screen, putting a clock on it, accelerating your mouse, bringing windows to the front of the screen by just clicking on them or whatever, someone somewhere has written a utility to do just that. *KCommodity* is a sort of 'meta Commodity' that incorporates all of those features and a whole lot more. There are many advantages to this, not least of which is the fact that they all work perfectly together – something that can't always be said when you use several independent utilities. There are other 'Commodity collections' around, but this has got to be the ultimate. It's even controllable by ARexx.

Do note that if you're going to get this from the Fred Fish collection, it comes on two disks; 885 contains the Commodity itself, with all the documentation, while 886 has the source files.

## KEYCALL

This program sits quietly in the background, keeping an eye on your

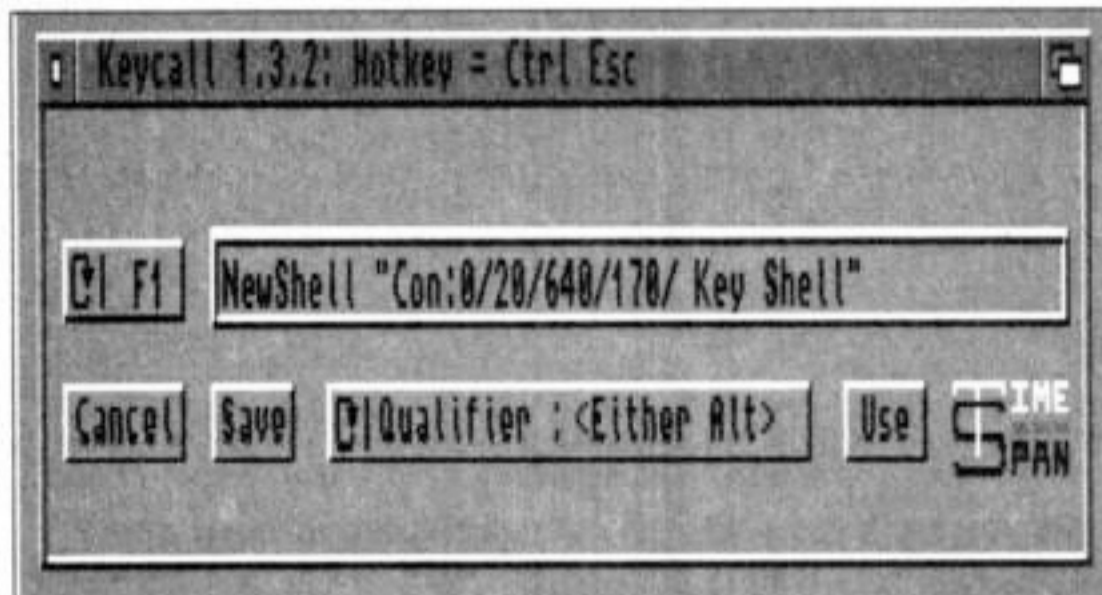
language are almost totally unreadable, but it can do 'real' tasks – a number of example programs are included on the disk, along with good documentation. It'll never take over from C or Pascal but, if you like the challenge of learning new computer languages (I know someone who claims to be proficient in well over a dozen), check it out.

## FINDIT

This is a 'find file' program written by Gary Smith. It gives a large range of options with which you can specify what files to display. For instance, if you created an IFF file but can't remember the name, just saying that it contains the extension '.iff' might produce a listing of hundreds of files. But *FindIt* will also let you specify which directories to search, the creation date of the file and gives specific fields for the start, middle and end of the name. The Amiga doesn't come with a **Find File** command as standard; *FindIt* more

Amiga's function keys. When it spots that you've pressed one, it automatically executes the command that you've told it you want. For instance, you can configure a function key to open a Shell window simply by telling *Keycall* that when you hit the key, you want it to execute the command **Newshell**.

That's about all there is to it,



**Configure KeyCall to automatically execute an AmigaDOS command whenever you hit a specific function key. It's easy and useful.**

really. It's a perfect example of a neat, useful little utility that no-one should be without.

## KINGFISHER

I wonder if Fred Fish realised what he was starting when he put out his first few disks of Amiga PD and shareware. Many, many hundreds later, he's still going strong and the problem for we poor end users is that it's getting harder and harder to track down what disk a particular program lives on.

Enter *KingFisher* by Udo Schuermann. This is an impressive, useful database whose sole purpose in life is to keep track of the Fish library. It supports search features such as finding more recent versions of a program as well as standard search by name and by text in the description. Since Fred keeps the contents in a standard format, it will add details of any new disks simply by scanning the Contents file on those disks.

The Fish disk collection is soon to be released on CD-ROM, but there are still a thousand disks available — and this program is an excellent way of keeping track of them all.

## KURVE

There are plenty of graph-plotting programs around but *Kurve* is one of the best. It does its job rapidly and supports a wide range of mathematical functions. Once a curve is plotted, the program will provide you with details of parameters such as turning points and maxima and minima — just the sort of thing maths teachers ask you for, in fact.

## LHA

This is probably the ultimate file compression utility available for the Amiga. It's the fastest, produces the

smallest archives... and has the most command line options to confuse the unwary. It can produce LZH-compatible archives and decompress them too so, if you only have one archiver on your disk, it has to be this one. Combine it with *All* (*Archiver Intuition Interface*, listed earlier, which puts a nice graphical front-end on the whole thing) and you've got the perfect combination.

## LYAPUNOVIA

Mandelbrot programs are old hat — everyone has at least one lurking on their hard drive and, even if you don't, you must be bored by now of the same old images. So check out *Lyapunovia*, a

program which allows you to explore mathematical spaces named after the Russian mathematician of the same name.

According to the program's author, Jesper Juul, "Lyapunov space must be the juiciest, spiciest and most outrageous object ever found within numbers."

The documentation describes just what Lyapunov space is, and how it compares with the Mandelbrot and Julia sets. But the real joy of the program is simply in playing, altering the co-ordinates and seeing what you come up with. And it's true — the graphics produced really are superb, and far more interesting than those tired old Mandelbrot sets.

## MUCHMORE

If you normally use the standard *More* browser for viewing text files, trash it and get hold of a copy of *MuchMore*. It's become the text viewer of choice for much of the Amiga world with its smoothly scrolling text (controllable via the mouse or keyboard), a Find feature, 'go to line number' command and much more. Much more. Ha ha. Ha.

## OSCILLO-GRAPH

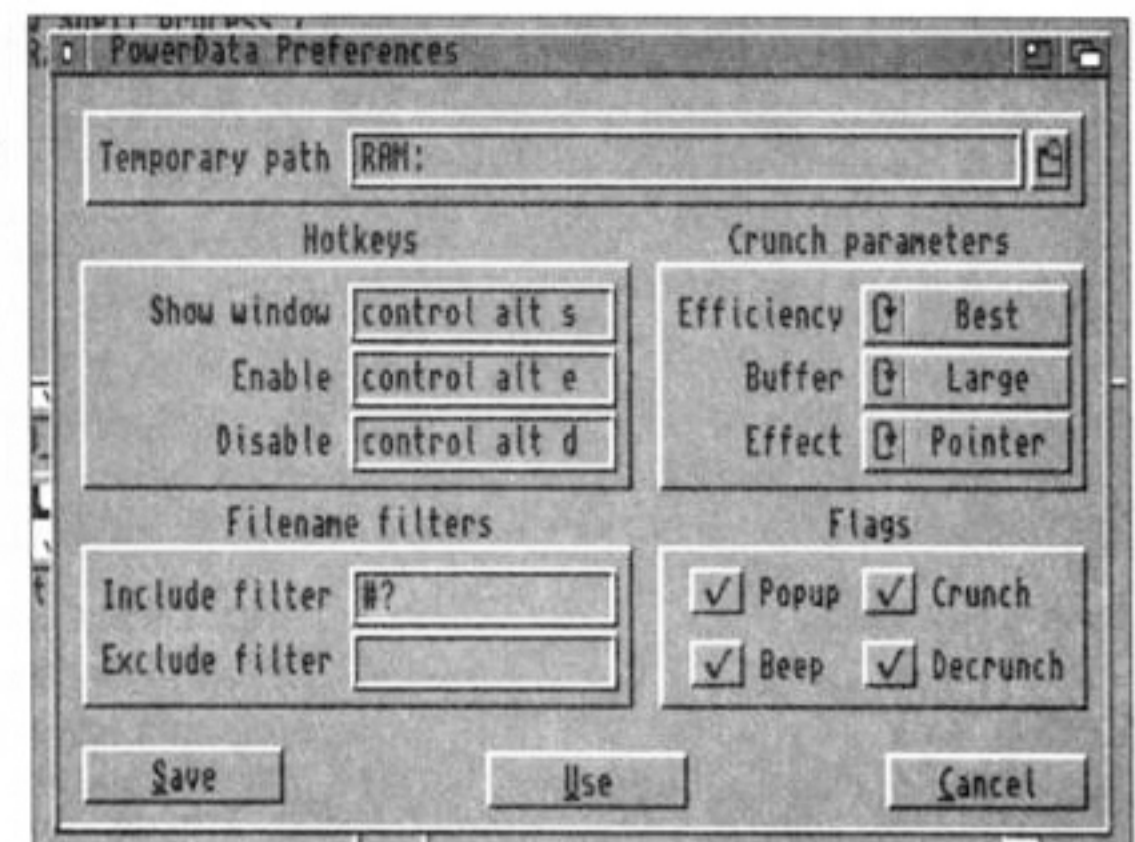
This is a fully-featured simulation of an oscilloscope, the electrical waveform generator much loved of school physics teachers. If you have an Amiga Sounder A-to-D converter, it will act exactly like a real 'scope but, if not, you can simulate inputs via a range of functions. If you are a science teacher — or just interested in physics — this is a 'must get'.

## POST

This is a full *PostScript* interpreter which allows you to view *PostScript* images on screen or output them to a non-*PostScript* printer. It's ideal since much valuable documentation available on the Internet is saved in *PostScript* format which makes it useless to the majority of Amiga owners who don't have *PostScript* printers. *Post* supports Type 1 and Type 3 fonts and the full package has a fonts which emulate classics such as Times and Helvetica.

## POWERDATA

This is an extremely useful utility, which transparently adds support for file compression to any Amiga program. It uses the *PowerPacker* compression system which has proved to be a popular way of shrinking files and programs while still allowing them to be launched by



**With PowerData installed you can get your programs to automatically compress their data as it's saved. They'll even de-compress it when they load it back in.**

whatever) will be automatically crunched for you. When you open it, it'll be decrunched before the program tries to read it.

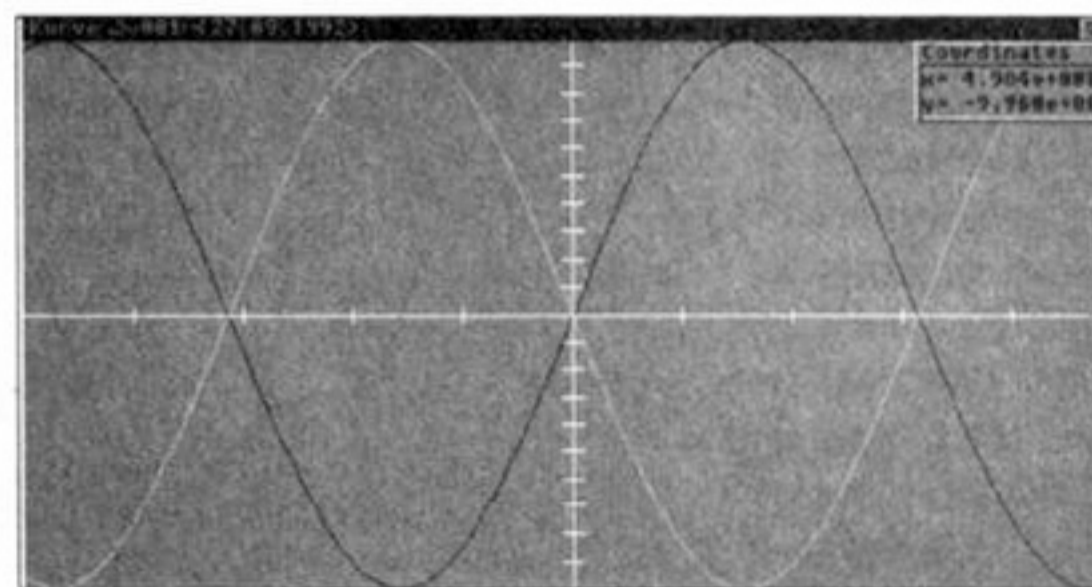
If you're running out of hard disk space, or if you're still running from floppies, this is an invaluable utility which is highly recommended.

## POWERTEXT II

**Central Licenseware number CLU32**  
*PowerText II* is an exceptionally powerful word processor. It's written in AMOS, though you wouldn't know that it hadn't been hand-crafted in Assembly language if you hadn't been told. It's got just about all the features that you could ask for and rivals many commercial offerings. The program's author, Gary Stimson, has spent many months making sure that *PowerText II* is as complete as possible — it now includes a built-in spelling checker, mail merge, macros, auto-insert of date and time, automatic saving at user-definable times and a manual in *AmigaGuide* format for easy reference.

I would be extremely surprised if *PowerText* doesn't do everything that you could possibly want, and then some.

continued on page 97



**Kurve is one of the best graph-plotting applications around. As well as plotting your curves, it'll tell you their maxima and minima as well.**

double-clicking. Once *PowerData* is installed, any file that you save from a program (a word processor document, *DPaint* graphic or

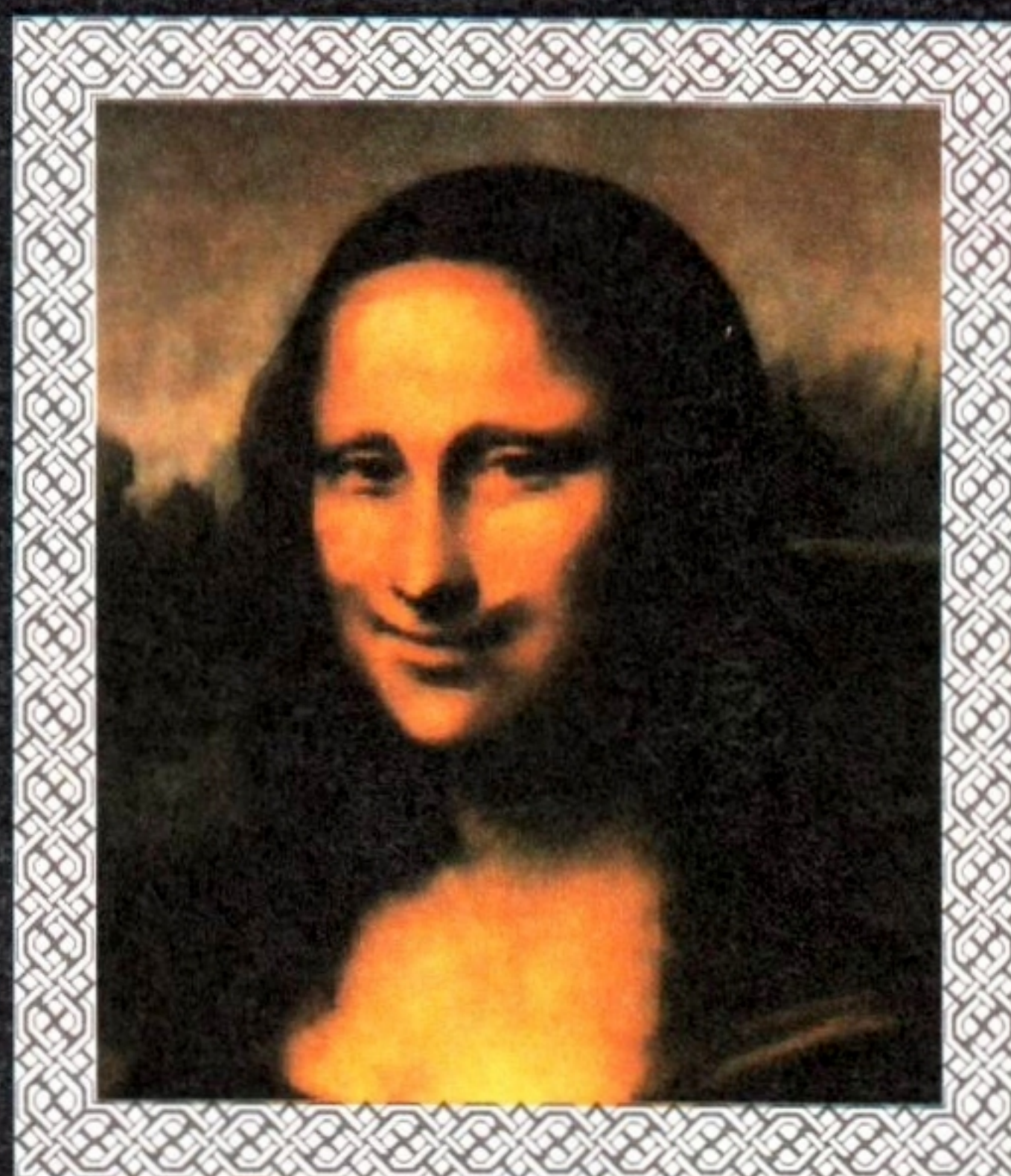
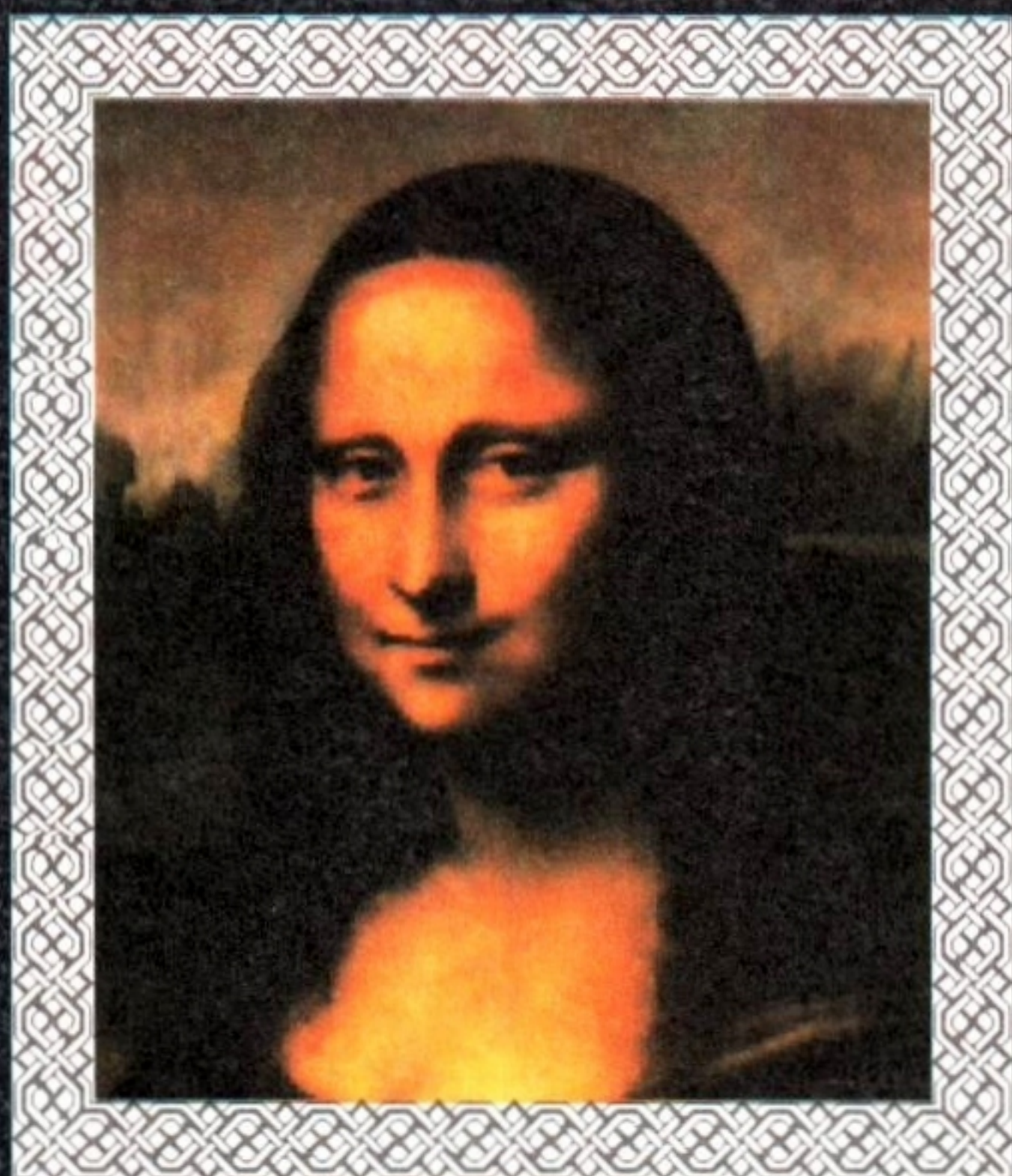
Line: 225 Column: 62 I Stuff:powertext/PowerText.Guide

on screen, leave it at the left margin and insert the >>CEN command on the line before it. This may sound confusing, but once you get used to it, you'll find that the system has many advantages, for example allowing you to use different margins at different points in your document and giving you a very high degree of control over how your text will look when printed. Although this method may seem a little strange at first, once you become accustomed to it, you'll find that embedded commands can be extremely powerful. Embedded commands are dealt with later in this manual, and in the example files on the PowerText disk.

At the top of the screen is a grey bar displaying the current line number, the column number within that line, whether the editor is in insert or overwrite mode (I or O is displayed) and the current file name (which defaults to "(Untitled)"). If the filename is too long to fit in the space, only the last 38 characters of it will be shown. The line above this is where messages from the computer are displayed. Messages that are flashing require a Yes/No response, those that appear in white are just status or error messages.

Just below the grey bar is the tab line. Each small line on it represents a character position. A slightly longer line is drawn at every fifth character, and a longer one still at every tenth. If you hit the tab key, the cursor will jump to the next tab position (denoted by a dot above the tab line). Tab stops can be set/reset by clicking on them with the mouse or using the Preferences menu link prefs.

**PowerText II is almost certainly the most powerful licenseware word processors available — it rivals many commercial programs!**



**A Mac classic**

# mac FORMAT

**A classic mag**

**Issue 10 : February 10**

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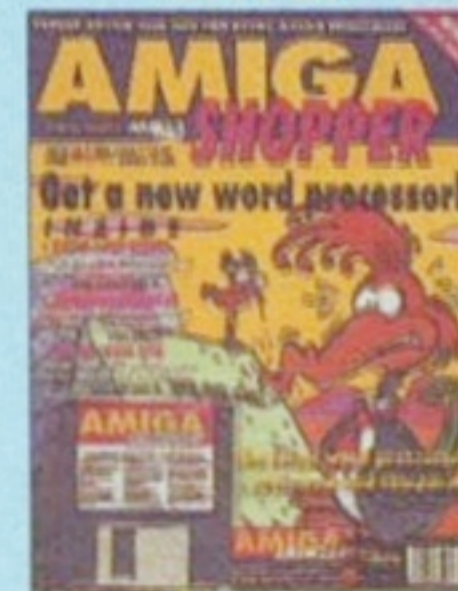
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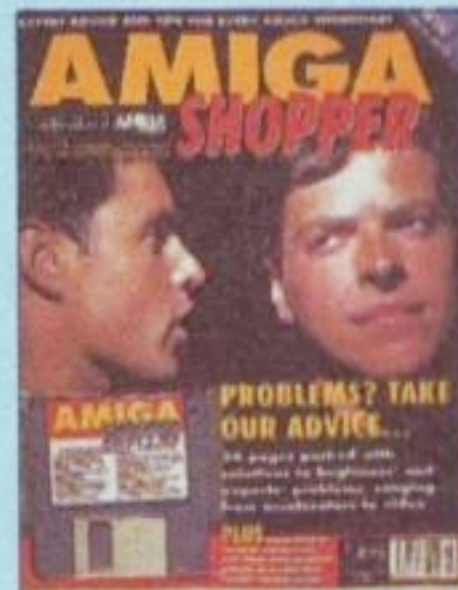
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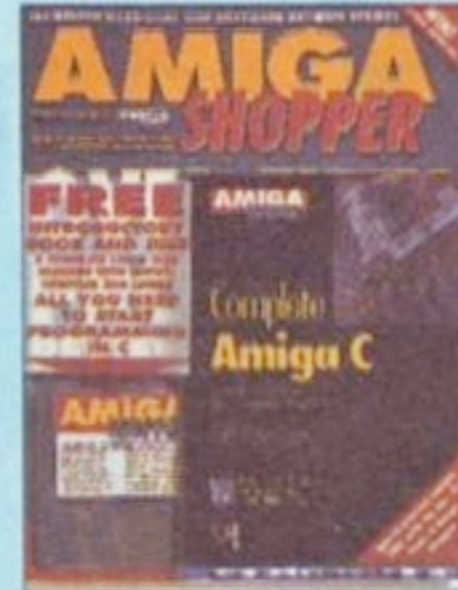
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U335 + Free Copy (A)  
U337 + Model 3D (A)  
U338 + Multi Visions 1 (A)  
U339 + Multi Visions 2 (A)  
U343 + Little Office (A)  
U350 + Pool Tool (A)  
U352 + Desktop Video (A)  
U356 + Text Engine V3.4 (A)  
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U431 + Video Apication (2) (A)  
U434 + Oracle (2) (A)  
U442 + Sysinfo 2.56 (A)  
U444 + Font Farm (A)  
U466 + Grape Vine 12 (3) (A)  
U477 + Quatermass Exp (2) (A)  
U480 + Hard Disk Click (A)  
U491 + Protrucker V3 (3)  
U495 + Hard Disk Util (A)  
U505 + Salvage/Repair Kit (A)  
U507 + DCopy 3 Proff (A)  
U509 + Ultimate Bblock 1 (A)  
U513 + Video Titrer A (2) (A)  
U516 + Amos Fractal (A)  
U550 + Scenery Const Kit (A)  
U551 + Assassin Boot Block (A)  
U555 + Crossword Creator  
U558 + Graphic Const Kit  
U567 + Text Plus V.4 (A)  
U568 + Icon Const Kit (2) (A)  
U580 + Picture Box (A)  
U581 + Magnetic Pages (A)  
U584 + New Super Killer (A)

## ANIMATION

A001 Walker 1 & 2 (2) (A)  
A004 + Porky Pig (AGA)  
A005 + Fillet The Fish (A)  
A007 + Franklin the Fly (A)  
A008 + Iron (2) (AGA)  
A010 + Sculpt Anim 1 (A)  
A013 + Space-Probe (A)  
A017 + S.T. Fleet (A)  
A019 + Stamp Logo Anim (A)  
A021 + Coyotes Strike Back  
A022 + Luxe Teenagers (A)  
A025 + Cool Cougar (A)  
A028 + Pugs in Space  
A029 + Mike Tyson (A)  
A033 + Fractal Flight (A)  
A036 + Weird Science I (A)  
A037 + Weird Science II (A)  
A038 + Batman Movies (A)  
A039 + Newtrak (2) (A)  
A051 + Dating Games (3Mb) (2)  
A056 + Juggette II (1Mb) (A)  
A059 + Pogo (1Mb) (A)  
A060 + Walker 1 (2Mb) (2) (A)  
A063 + Juggler II (A)  
A064 + Newtrak III (2) (A)  
A066 + DBW Reader (A)  
A068 + Walker 2 (2) (A)(2M)  
A070 + Donald Duck  
A072 + Life a Bitch (1B) (A)  
A073 + Its Mental III (A)  
A082 + Its Mental I (A)  
A108 + Another World (A)  
A115 + Vietnam Conflict (A)  
A138 + Kyllies A (20) (A)  
A141 + Terminator 2 (A)  
A150 + Madonna (A)  
A151 + Top Gun (A)  
A153 + Guff Tribute (A)  
A154 + Thunderbirds (A)  
A155 + Rock Album (A)  
A157 + Watership Down (A)  
A158 Garfield (A)  
A175 + Madonna SS II (AGA)  
A178 + Kim Wilde Slides (A)  
A179 + The Living World (A)  
A187 + Peril of the Deep 1 (A)  
A188 + Peril of the Deep 2 (A)  
A190 + Terminator II (2) (A)  
A193 + Nemesis Comic (A)  
A195 + Real 3D (2) (A)  
A197 + Star Trek (2) (A)  
A200 + Mars Flights (A)  
A202 + Fractal Anim (A)  
A205 + Planet Side (A)  
A207 + New Lammings  
A208 + Lady & the Tramp (A)  
A209 + Mr Potatoes (A)  
A211 Copter Flight (A)  
A213 + Cannon Flight (A)  
A215 + Madonna III (3) (A)  
A218 + More Aretoon (A)  
A220 + Showbiz Anim  
A221 + James Whale Anim  
A225 + 5 Way Kill Mole 2 (A)  
A226 + New Viz (A)  
A230 + Too Much 3D (A)  
A231 + Aliens (A)  
A232 + Beach Flight 1 & 2 (A)  
A236 Whizzer & Chip (A)  
A241 + Super Pic (1-3) (A)  
A250 + Channel 42  
A252 + Space Flight Anim (A)  
A255 + Bart Simpson (3) (A)  
A258 + Creep Show (A)  
A260 + Freddy Dead (A)  
A262 + Star Trek (A)  
A265 + Let Me Out 1 & 2 (A)  
A266 + Colour Cycle  
A280 + Gif 1 & 2 (2) (A)  
A288 + Saturn Fly By (A)  
A289 + Reflection (A)  
A290 + Christmas Anim (A)  
A293 + Manga Comic (2) (A)  
A296 + Cyclic Art (AGA)  
A299 + Eric Schwartz (A)  
A300 + Visto Pro (2) (A)  
A302 + Cat Slideshow (A)  
A306 + Tornado (AGA)  
A311 + Colour Demo (A)  
A314 + Scenery Anim (2) (A)  
A317 + Rocking Robot (A)  
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A334 + Dolphin Dream (A)  
A372 + Rodens Anim (2) (A)  
A375 + Moonshine (2Mg) (A)  
A376 + 6 of 1 Prisoner (A)  
A377 + Eight Slenz Out (2M) (A)  
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A379 + Predator (2)  
A383 + Adventure Oscar (A)

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## DEMOS

D001 + Space Ace (A)  
D008 + Predator (A)  
D011 + Multitasking (A)  
D013 + Fraction Revenges (A)  
D016 + Dead Dance Thrash  
D029 + Budbrain Mega (2)  
D033 + Phenomena (A)  
D035 + Thames TV Demo (A)  
D050 Pink Floyd (6) (A)  
D062 + Predators (2) (A)  
D068 + Sam Fox Bills Bobs  
D076 + Contact Been Made (A)  
D078 + System Violation (A)  
D120 + 1911 Voyage  
D152 + The Electric Touch  
D154 + Virtual Real (2)  
D156 + Kyllies Demo (2)  
D163 + Harlequin Demo (A)  
D168 + Silence of the Lamb (A)  
D180 + Cheap Movies Clip  
D188 + Peace of Mind  
D190 + Software Failure  
D201 + Farts Demo (A)  
D203 + Hidden Demo (A)  
D205 + CDA Limelight (A)  
D218 + Scream (2)  
D225 + Deluxe Video III (2)  
D234 Silence Expose (2)  
D236 + Deluxe Photo Lab (2)  
D240 + Anarchy

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M001+ Beastly Boys (A)  
M002+ Michael Jackson (A)  
M003+ Do the Barmen (A)  
M005+ 100 C64 Tunes  
M018+ The Xmas Song (2) (A)  
M020+ Laurel & Hardy (2) (A)  
M025+ Money for Nothing (A)  
M026+ Walk on the Way Remix (A).  
M029+ Safe Sex Demo (A)  
M031+ Betty Boo(2) (A)  
M040+ Secret PMs Ball (2) (A)  
M058+Sgt Pepper Disk (2) (A)  
M062+ The Rainbow Demo (A)  
M063+Chubby Brown (A)  
M072+Madonna (A)  
M076+ Popeye (A)  
M084+C64 Games Music (A)  
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M156+CD Player (A)  
M158+DoctoringTardis (A)  
M160+ I am too Sexy (2) (A)  
M168+Rocks 'n' Roll (A)  
M171+Madonna (Virgin) (A)  
M177+Pet Shop Boy 4 Tunes (A)  
M184+Samfox (Please Me) (A)  
M186+Madonna (Rescue) (A)  
M188+Joe Le Taxi (A)  
M194+Jesuc One's (2) (A)  
M230+Now Music (1-15)  
M262+A to Z C64 Tunes (4) (A)  
M274+LSD Techno Warrior (A)  
M276+Yivaldi 4 Seasons  
M293+Bach Concerto 5/6 (A)  
M314+Dick Tracy (2) (A)  
M317+Freddie Rapp (A)  
M318+Madonna Immaculate Col (A)

## EDUCATION

E001+ Kids Paint (A)  
E002+ Colour It (A)  
E003+ Treasure Search (A)  
E004+ Learn & Play I  
E005+ Learn & Play II  
E006+ Spanish Translator (A)  
E007+ Education Graphics  
E008 Mr Men  
E009+ Astronomy (A)  
E010+ Simon & Space Math (A)  
E011+ Education Disk 1 (A)  
E012+ Education Disk 2 (A)  
E013+ Education Disk 3 (A)  
E014+ Education Disk 4 (A)  
E015+ Education Disk 5 (A)  
E016+ Education Disk 6  
E019+ Dinosaurs (A)  
E020 World Database  
E021+ Story Land II (A)  
E022+ Language Tutor (A)  
E023+ Talking Colouring (A)  
E024+ Easy Spell II (A)  
E025+ Scrabble (A)  
E026+ Words (A)  
E027+ Oswald (A)  
E028+ Arichs Astrology (A)  
E029+ Arichs Astrology (A)  
E30+ Evolution (A)  
E31+ IQ Test + IQ Games (A)  
E33+ Keyclick II  
E35+ Chess Helper (A)  
E36+ Basic Tutor (A)  
E38+ Amiga Tutorial (A)  
E39+ Postman Pat (A)  
E40+ Guide to Back Pain (A)  
E41+ Kid Alphabet (A)  
E42+ Fraction & Silquest (A)  
E43+ Math Master (A)  
E44+ Steam Engine V2 (A)  
E45+ Petrol Engine (A)  
E46+ Gas Turbine Engine (A)  
E50+ Dream for Angels (A)  
E51+ Invisible World (A)  
E52+ Fish Tank Sim  
E54+ Demolit Mission (A)  
E55+ Word Power (A)  
E56+ Worm Hole (A)  
E57+ Apple Catcher (A)  
E58+ Maze & Crypak (A)  
E59+ Verb Quiz (A)  
E61+ King James Bible A (A)  
E66+ Tarot A (A)  
E67+ Tarot Disk B  
E68+ Gallow (A)  
E69+ Treasure Trap  
E70+ Math Drills (A)  
E71+ Error Info (A)  
E73+ Picture & Letter (A)  
E74+ Amiga Begin Guide (A)  
E75+ World War 2 (A)

## CLIPART

CA01+ Colour Cartoon  
C015+ FS Clipart (1-5)  
C024+ Harlequin Vol1  
C025+ Harlequin Vol 2  
C026+ Harlequin Video 1  
C027+ Dynamite Fonts 1  
C028+ Amsoft Font Clip 1  
C029+ Amsoft Font Clip 2  
C030+ Various Fonts  
C031+ Exile Font Clipart  
C032+ Disney Clipart  
C033+ Cosmic Clipart  
C034+ Space Clipart  
C035+ Galactic Fonts (3)  
C043+ Rip-Font & Logo  
C044+ Colour Clip Art 1  
C051+ Clip Art Vol 1(1-20)  
C101+ IFF Pic Clipart (1-24)

## FONTS

F001+ FS Font (1-5)  
F015+ Deluxe Paint Font 1  
F016+ Deluxe Paint Font 2  
F017+ Deluxe Paint Font 3  
F018+ Deluxe Paint Font 4  
F020+ Halc Font (3)  
F023+ Computer Eye Font 1  
F024+ Computer Eye Font 2  
F025+ Fancy Font Volume 1  
F040+ Digi Font Volume 1  
F045+ Mega Font Volume 1  
F050+PS Logo Font (1-9)  
F070+ Pagestream Font (1-6)

## SAMPLES

S001 Sample ST Vol (1-50)  
S151 Mega Modules (1-6)  
S171 House Samples A  
S172 House Samples B  
S173 House Samples C  
S174 Noise Less, Mozart  
S175 Korge Sample (3)  
S201 ST Modules (1-40)  
S401 NT Modules (1-3)  
S501 Instrument (1-5) 1

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NOTE: THIS IS NOT PD. SOME TITLES BELOW ARE WELL BELOW HALF PRICE & ALL GAMES ARE ORIGINAL, BOXED WITH INSTRUCTIONS, RRP £19.95 OR MORE

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## COMPATIBLES NOTE

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CDTV/A1500/A2000 etc, check for (Kickstart) that matches one of the top Amiga...Ok. ( ) means number of disks.

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Note: the Commercial Games listed are not PD, they are fully priced games (box) subject to availability. All titles in stock.

# WHERE TO GET IT

There are two main ways to get hold of Amiga PD and shareware: from a bulletin board or from a PD library.

The advantage of using a bulletin board (BBS) is that often the latest software is uploaded as soon as it's available. On the downside, you need a modem to connect, and you'll have to pay phone charges (and sometimes a

connection fee to the BBS as well).

There is a growing number of BBSs with a wide range of Amiga software available for download. Check out 01-for Amiga (☎ 071 377 1358) and the Cheam Amiga Bulletin Board (☎ 081 644 8714). Another good option is joining CIX (the Compulink Information eXchange), which not only has

Amiga software but also contains conference and file areas on a wide range of subjects. Many of the *Amiga Shopper* writers have accounts on CIX, so you can get first-hand advice on your problems, too. For more details, call CIX on ☎ 081 390 8446 (voice) or ☎ 081 390 1255 (modem).

If you don't want to use a BBS

or haven't got a modem, the other way to get PD software is from a PD house. Many advertise in *Amiga Shopper*, and there's a full directory overleaf. Expect to pay between 99p and about £2.50 per disk — there's often a discount if you buy in bulk, too. As for the difference between companies which charge 99p and those which charge £2.50 — well, try both types. Some totally professional PD houses charge less than a quid, and some incompetents charge more than twice that.

continued from page 92

## SKSH

Unix users will be familiar with the *ksh* shell — now it's been implemented on the Amiga. It requires *Workbench 2.1* or above to run, and needs a good 3Mb of space on the Workbench partition of your hard disk, but the space is well worth it if you want the features of *ksh* on your Amiga. They include:

- Shell functions
- Aliases
- Command substitution
- Line editing, Emacs style
- Redirection of input and output
- Pipes
- Many Unix-style utilities, such as *grep*
- ARexx support
- Comprehensive documentation, including 'man' on-line reference pages

All of this, amazingly, is freeware — and is well worth checking out if you're finding the standard Amiga shell restrictive.

## SYSINFO

Want to know exactly what's under the hood of your Amiga and how fast it's all running? *SysInfo* is the essential nerds' tool for getting all that information — and much, much more. These vital statistics are grouped into such categories as memory, speed, add-in boards and disk drives — each providing more

details than anyone could possibly desire. *SysInfo* will also list information such as which libraries are loaded — useful when you're having trouble with software and you want to make a note of exactly what's installed before you ring the tech support line. The speed tests produce a graph of your Amiga's performance compared with other members of the Amiga family.

## TERM

*Term* is probably the most fully-featured comms program available on the Amiga. Some people prefer other comms packages but, for me, *Term* has always been the winner thanks to the way it implements things like file transfer protocols. Rather than hard-coding things like XModem, YModem and ZModem into the program, they are implemented via 'XPR libraries' — in other words, libraries which live in your **LIBS:** directory. This means that new protocols can be added to the program without a major upgrade of the software — only a new library has to be distributed.

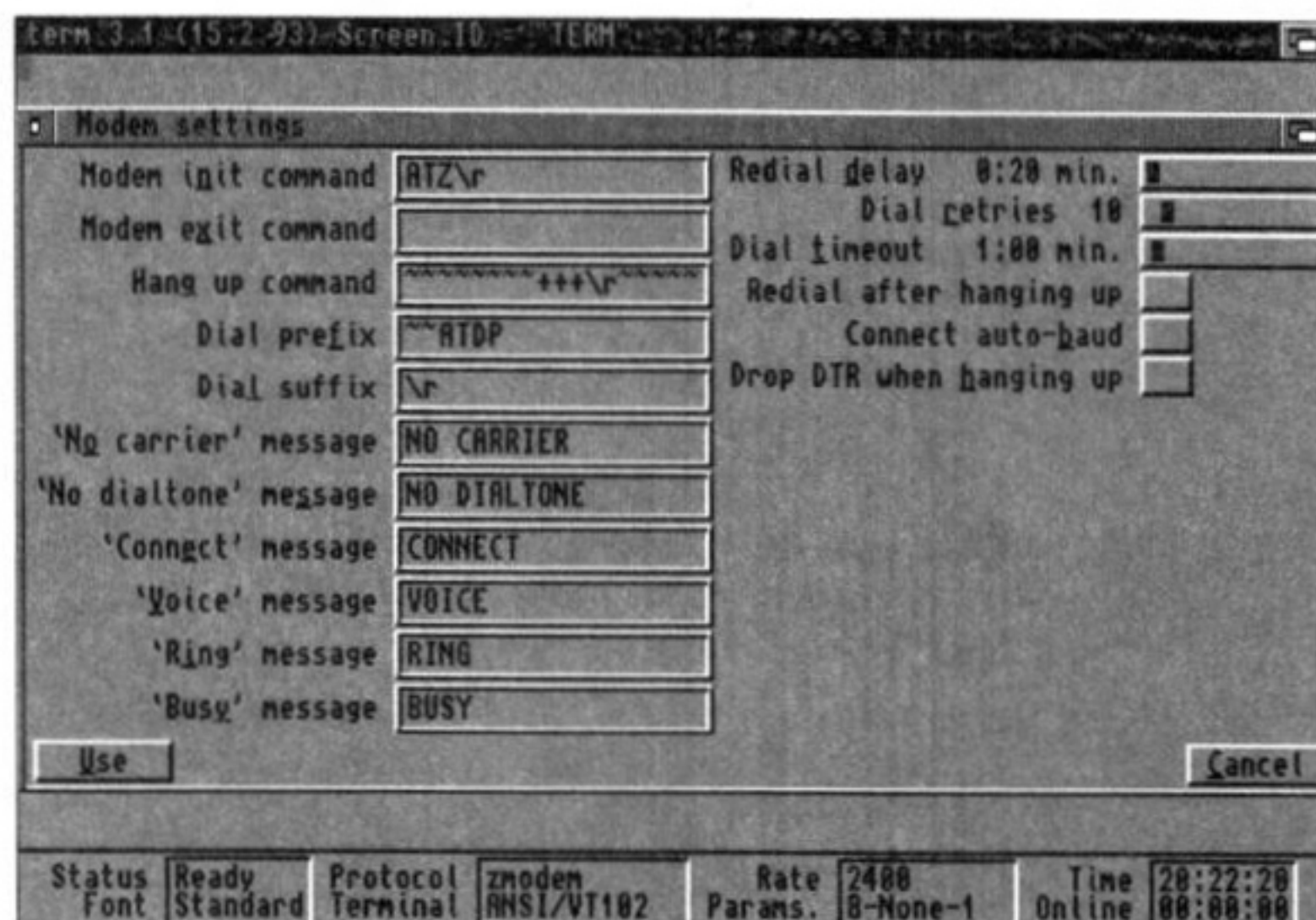
The program's features are too numerous to list but here's a selection:

- Cut and paste of data on-screen
- VT102, VT220 and ANSI terminal emulation
- Supports all screen modes, including AGA and ECS modes
- Fully ARexx controllable

- Unlimited-size scrollable buffer for received data
- ...and much more!

## TWILIGHT-ZONE

If you're a screen-saver fan, *TwilightZone* is pretty much the pinnacle. It's fully customisable and includes a range of different 'modules' — you're not stuck with one display. There are 'blank now' and 'blank



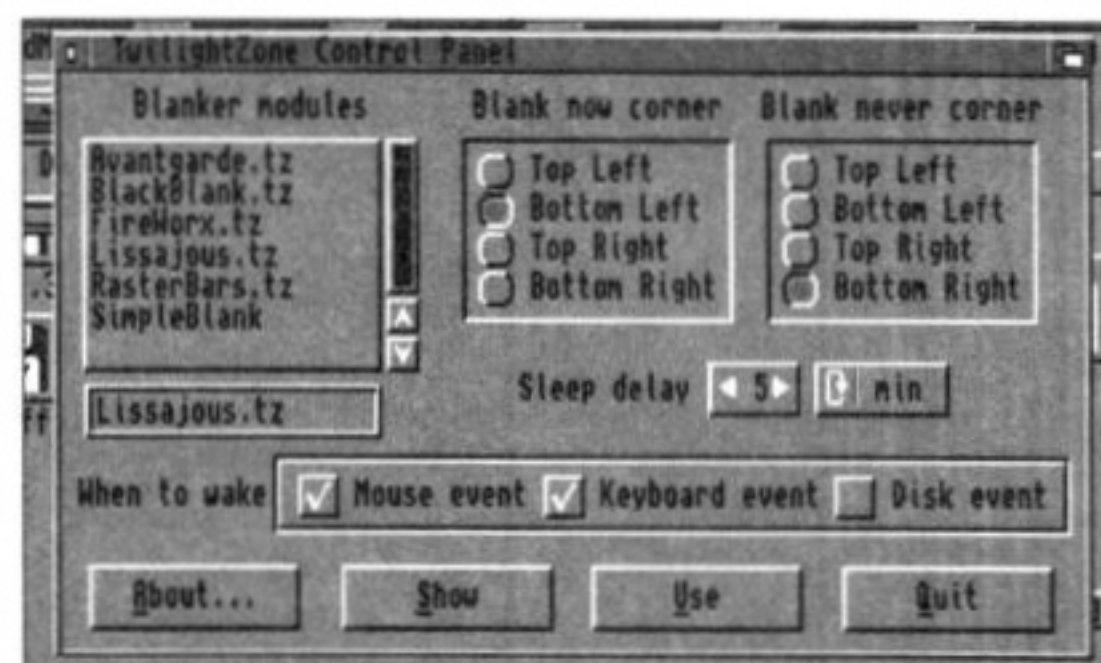
One of the most powerful and configurable Amiga comms packages has to be *Term*. It'll suit even the most dedicated comms nut.

never' corners of the screen to immediately invoke the screensaver or to prevent it from kicking in, and you can also, of course, set a time delay after which it will take effect. You can even select what will wake your Amiga up again — mouse events, keyboard events, disk events

## VIEWTEK

This is an extremely powerful freeware image viewing program, which should be able to cope with just about any kind of Amiga image file that you can throw at it. It supports:

- Most ILBMs, including 24-bit images
- CompuServe GIF-format files
- JPEG images, as long as they are in JFIF format
- ANIM7 animations
- SHAM, CTBL and PCHG images
- ECS and AGA display modes — so it will show 256-colour images



Save your screen with *TwilightZone* and its incredible array of attractive, non-phosphor burning display modules.

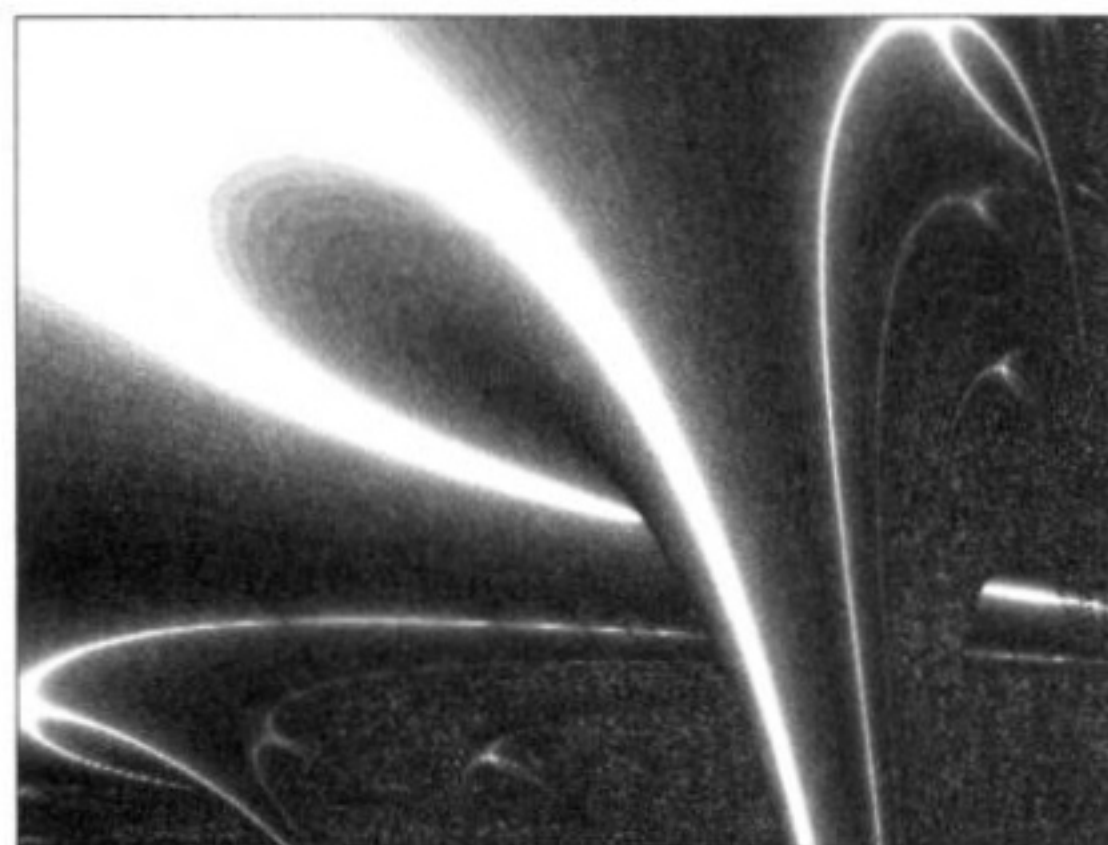
or a combination of the three.

## UNIXDIRS

Do you use a Unix system at work? If so, the chances are that you're forever specifying path names in the Amiga Shell that start with '..' instead of '/'. Get hold of *UnixDirs*. This tiny utility patches calls to AmigaDOS so that you can use '..' and '/' with impunity.

## VIRUSZ

If you haven't got a virus killer running on your Amiga, you're asking for trouble (regular readers of this column will know that I was caught out last month). *VirusZ* is one of the best although there are others — just make sure that you have something up and running at all times. And do make sure that it's an up-to-date version as the idiots that create viruses are always in the process of making new ones.



Bore of Mandelbrot and Julia sets? Why not take a voyage into Lyapunov space and savour the latest in mathematical journeys?

## UK PD HOUSES • UK PD HOUSES

\*An asterisk by a library's name means see its advert in this issue for further details.

**A1200 Only PD.** Contact B J Cowdall, 27 Pheasant Way, Cirencester, Glos. GL7 1BJ.

**AMOS PD,** 1 Penmynydd Road, Penlan, Swansea SA5 7EH.

**Amiganuts United,** 1 Daffern Avenue, New Arley, Coventry CV7 8GR.

**Amiga Productivity PD Series,** 51 Ennors Road, Newquay, Cornwall TR7 1RB. Contact M J Docking.

\***Anglia PDL,** 30 Victoria Street, Felixstowe, Suffolk, IP11 7EW, ☎ 0394 283494.

\***Anim1 PD,** 2 Fatherwell Avenue, West Malling, Kent ME19 6NG.

**Armchair PD,** 180 Blackton Close, Newton Aycliffe, Co Durham DL5 7EY.

**Artman,** 40 Northwell Gate, Otley, West Yorkshire LS21 2DN. Phone ☎ 0943 466476.

**Asgard PD,** 20 Langdale Drive, Flanshaw, Wakefield WF2 9EW. Phone ☎ 0924 363059.

**Batty's PD.** Contact Ian or Lynn Battison, 7 Denmark Road, Northampton NN1 5QR. ☎ 0604 22456. Life membership £3.99.

**Beats Brothers,** 6 Brownings Close, Pennington, Lymington, Hampshire SO41 8GX.

**Belshaws PD.** 55 Baldertongate, Newark, Notts. NG24 1EU, ☎ 0636 72503.

**BG PD,** 6 Peter Street, Whitehaven, Cumbria CA28 7QB.

**Blitterchips,** Cliffe House, Primrose Street, Keighley, BD21 4NN, ☎ 0535 667469.

**BTK,** 7 Callander Road, Catford, London SE6 2QA ☎ 081 473 1650.

**Bus Stop PD.** Contact Lisa or Cheryl, 6 Smiths Avenue, Marsh, Huddersfield HD3 4AN, ☎ 0484 516941.

**C and C PD.** Contact Chris Wildman, 3a The Cedars, Tilehurst, Reading, Berks. RG3 6JW, ☎ 0734 411131.

**Chris's PD,** 22 Merryfields Avenue, Hockley, Essex SS5 5AL.

**Colwyn PD.** Free, non-profit-making PD, membership £5 per year. Contact Andy Roberts, 17 Gladys Grove, Colwyn Bay, Clwyd LL29 7YB, ☎ 0492 533442.

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**Crazy Software PD,** 50 Woodville Court, Portobello, Wakefield, West Yorkshire WF2 7DU.

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**Essex Computer Systems,** 118 Middle Crockerford, Basildon, Essex, SS16 4JA, ☎ 0268 553963.

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**Haven Computing,** 15b Meeching Road, Newhaven East Sussex BN9 9RL, ☎ 0273 513491

**Highland PD.** Free list contains lots of education and business disks. Contact David Paulin, 255 Drumrossie Avenue, Inverness IU2 3SX ☎ 0463 242431.

**Holmes Brothers Compilations.** Contact Craig for monthly compilation disk. 23 Rocester Avenue, Wednesfield, Wolverhampton, West Midlands WV11 3AU. ☎ 0902 733418.

**Hornesoft PD.** Contact Chris Horne, 23 Stanwell Close, Wincobank, Sheffield S9 1PZ, ☎ 0742 422000.

**ICPUG (Independent Commodore Product Users Group),** PO Box 1309, London, N3 2UT, ☎ 081 346 0050.

**Immediate Arts,** 26 Lyndhurst Gardens, Glasgow G20 6QY. ☎ 041 946 5798.

**Judge Dredd's PD,** 1 Nottingham Road, South Croydon, Surrey CR2 6LN.

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\***KT's PD.** 75 The Drive, Rochford, Essex SS4 1QQ, ☎ 0702 542536.

**Langham PD.** Contact Richard Payne, 89 Wolverhampton Road, Codsall, Wolverhampton WV8 1PL

**Logic PD,** 8/5 Glenalmond Court, Sighthill, Edinburgh EH11 4BE.

**Magnetic Fields,** PO Box 118, Preston, Lancashire PR2 2AW. ☎ 0772 881190

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**Orbital Software.** Contact A Flowers, 37 The Orchard, Market Deeping, Peterborough, Cambs. PE8 8JR, ☎ 0778 342064.

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**Riverdene PDL,** 30a School Road, Tilehurst, Reading, Berkshire RG3 5AN, ☎ 0734 452416.

**Roberta Smith DTP,** 190 Falloden Way, Hampstead Garden Suburb, London NW11 6JE, ☎ 081 455 1626.

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\***SeaSoft Computing,** The Business Centre, 1st Floor, 80 Woodlands Avenue, Rustington, W. Sussex BN16 3EY. ☎ 0903 850378.

\* **Sector 16,** 160 Hollow Way, Cowley, Oxford, ☎ 0865 774472.

**17-Bit Software,** 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorkshire WF1 1DH. Phone: ☎ 0924 366982.

**Softville,** 35 Market Parade, Havant, Hants PO9 1PY ☎ 0705 498199.

**Software Expressions,** Unit 4, 44 Beaulieu Road, Southville, Bristol BS3 1PY, ☎ 0272 639593.

**Startronics,** 4 Arnold Drive, Droylsden, Manchester M35 6RE, ☎ 061 370 9115.

**Tazmania PD,** 4 Boultham Avenue, Lincoln LN5 7XZ, ☎ 0522 538706 (after 6 pm).

**Telescan Computer Services,** Handsworth Road, Blackpool FY5 1SB, ☎ 0253 22296.

**Trevan Designs Ltd,** PO Box 13, Aldershot, Hants. GU12 6YX, ☎ 0483 725905 (note: modem line, not voice).

**Vally PD,** PO Box 15, Peterlee, Co Durham SR8 1NZ, ☎ 091 587 1195.

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**AMIGA 1200 SPECIFICATIONS**

- 68020EC Processor - 14.19MHz Clock Speed
- 32-bit Architecture/2Mb Chip RAM
- Amiga DOS v3.0/Built-in TV Modulator
- AA Chip Set/16.8 Million Colours
- 1 x 32-Bit CPU/RAM Expansion Slot
- PCMCIA Smart Card Slot
- 96 Key Keyboard with Numeric Keypad

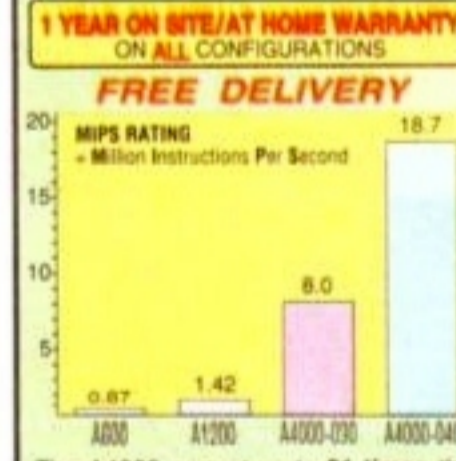
**21" Internal IDE Hard Drive Options**

- 1 Year On-site Warranty

**HARD DRIVE OPTIONS**

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**NEW! AA CHIPSET**

## AMIGA 4000 CONFIGURATIONS

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CHAMBERS OF SHADOL	NOW GAMES VOL 2
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A MAGAZINE WITH ATTITUDE

## **STAY COOL**

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through these other ones.

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there's better than this.  
It's a prize game.

**LAMBORGHINI  
AMERICAN  
CHALLENGE**  
Speed and style of  
other  
speedy  
words are  
what's  
needed to  
win this one.

**GOLF** disk 3d  
That would be a  
lot of fun to play.  
You don't need to read  
this one.

**Cool Spot exclusive  
demo and  
review!**

Also reviewed in this  
issue: F1, Skidmarks,  
Fury of the Furries,  
Bubba'n'Stix, Star  
Trek, Campaign  
2, Civilisation  
AGA and loads  
more! It's  
almost too  
exciting  
to be  
true!  
Yes

Future  
Your quarterly  
magazine

ISSUE **34**

**The** current issue of **AMIGA POWER** (Britain's most lovely AND fastest-growing Amiga games mag) has reviews of every Amiga game that ever mattered. There's *Cool Spot*, *F1*, *Bubba'n'Stix*, *Dennis*, *Star Trek*, *Campaign 2*, *Goblins 3* and *Skidmarks*, as well as, ooh, quite a few more. And as if that wasn't enough, we've also

got all the up-to-the-minute news on the very latest developments for Commodore's world-beating (we hope and expect) CD32 console.

We've got **TWO COVERDISKS** featuring the best in demos, too.

Oh, and your last chance to hear all those dreadful jokes again – before we get in some new ones.

All that and a scintillating review and demo of (you've guessed it) **COOL SPOT**.

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JAN 20**

# PRODUCT LOCATOR SOFTWARE

## SOFTWARE • SOFTWARE • SOFTWARE • SOFTWARE • SOFTWARE • SOFTWARE • SOFTWARE • SOFTWARE

Welcome to the *Amiga Shopper* Buyer's Guide, your regular guide to what's hot and what's not in the Amiga market place. It's designed as a simple-to-use yet comprehensive guide which will help you to make the right buying decisions. It may not include each and every product ever produced for the Amiga (that would take up

virtually the whole of *Amiga Shopper!*), but rest assured that all the major brands are here. The Buyer's Guide will run each and every month and as new products are released and others discontinued, we'll be updating it accordingly. This month we're concentrating on commercial software packages. Next month it's public domain.

### PAINT PROGRAMS

Product	Supplier	Price	Screen Modes	Max Colours	Overscan	Animation	Rating	Issue
Brilliance	Meridian	£149.99	L/LI/M/H/A	262,000	Yes	Yes	*****	32
<b>Deluxe Paint 4</b>	<b>Electronic Arts</b>	<b>£90</b>	<b>L/LI/M/H</b>	<b>4096</b>	<b>Yes</b>	<b>Yes</b>	*****	<b>10</b>
Deluxe PhotoLab	Electronic Arts	£130	L/LI/M/H	4096	Yes	No	***	2
<b>DigiPaint 3</b>	<b>Silica Systems</b>	<b>£80</b>	<b>L/LI</b>	<b>4096</b>	<b>Yes</b>	<b>No</b>	****	<b>2</b>
The Graphics Studio	Accolade	£50	L/M	32	No	No	***	2
<b>Personal Paint</b>	<b>MicroPACE</b>	<b>£59.95</b>	<b>L/LI/M/H/S/A</b>	<b>262,000</b>	<b>Yes</b>	<b>Yes</b>	****	<b>26</b>
Photon Paint 2	MicroIllusions	£90	L/LI	4096	Yes	Yes	*****	2
<b>RPaint</b>	<b>MegaM</b>	<b>£52.25</b>	<b>L/LI/M/H</b>	<b>64</b>	<b>Yes</b>	<b>No</b>	***	<b>33</b>
SpectreColour	HD Marketing	£60	L/LI	4096	Yes	Yes	***	5

L = Low-Res, LI = Low-Res Interlaced, M = Medium, H = High-Res, S = Super Hi-Res, A = AGA

### ANIMATION SOFTWARE

Product	Supplier	Price	ANIM Compat	Onion Skin	X-Sheet	Sound	Rating	Issue
Disney Animation Studio	Silica	£80	Yes	Yes	Yes	Yes	****	1
<b>MovieSetter</b>	<b>Silica</b>	<b>£80</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	****	<b>14,23</b>
Take-2	Rombo	£49	No	No	Yes	Yes	****	14

### SOLID MODELLING / RAY-TRACING

Product	Supplier	Price	Ray Tracing	24-bit	Animation	Bump Maps	Textures	Rating	Issue
Aladdin 4D	MicroPace	£260	No	Yes	Yes	No	Yes	***	25
<b>Caligari 24</b>	<b>Amiga Centre Scotland</b>	<b>£99.95</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	***	<b>33</b>
Draw 4D	Surface UK	£150	No	No	Yes	No	Yes	***	7
<b>Expert 4D Junior</b>	<b>Genisoft</b>	<b>£39.95</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	****	<b>21</b>
Imagine	Silica	£235	Yes	Yes	Yes	No	Yes	*****	4,7,20
<b>Imagine 2</b>	<b>Computech</b>	<b>£270</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	****	<b>14</b>
RayDance	Radiance	£100	Yes	Yes	No	Yes	Yes	***	14
<b>Real 3D 1.4</b>	<b>Alternative Image</b>	<b>£120</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	*****	<b>4,7,20</b>
Sculpt 4D	Alternative Image	£400	Yes	Yes	Yes	No	Yes	*****	7
<b>3D professional</b>	<b>Marcam</b>	<b>£260</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	***	<b>7</b>

### MISC. GRAPHICS

Product	Supplier	Price	Type	Rating	Issue
AccuTrans 3D	MicroMouse	£39.29	3D object conversion	****	33
<b>CineMorph</b>	<b>Silica</b>	<b>£99.95</b>	<b>Morphing program</b>	****	<b>23</b>
Clip Art	Artworks	£6.95	Various IFF clip art files	-	29
<b>Essence II</b>	<b>Alternative Image</b>	<b>£100</b>	<b>Algorithmic textures</b>	*****	<b>32</b>
FlightPaths	Meridian	£49.95	Animation effects for DPaint	****	26
<b>Fractal Pro</b>	<b>MegaM</b>	<b>US\$209.95</b>	<b>Fractal graphics generator</b>	-	<b>29</b>
Genesis	MicroIllusions	£50	Fractal Landscapes	****	11
<b>MakePath</b>	<b>Meridian</b>	<b>£24.99</b>	<b>Animation editor for VistaPro</b>	****	<b>26</b>
Morph Plus	MicroPace	£180	Morphing program	****	23
<b>Nexus Backdrops</b>	<b>VideoWorld</b>	<b>£29.95</b>	<b>Backdrops for video</b>	****	<b>33</b>
Pixel 3D Pro	Micro-PACE	£144.95	Convert bitmaps to solid 3D	***	29
<b>Terraform</b>	<b>Meridian</b>	<b>£34.99</b>	<b>Landscapes editor for VistaPro</b>	****	<b>26</b>
Textures II	Alternative Image	£40	Brush map textures	****	32
<b>VistaPro</b>	<b>Meridian</b>	<b>£100</b>	<b>Fractal Landscapes</b>	*****	<b>7</b>

### IMAGE PROCESSORS

Product	Supplier	Price	24-bit	Max Colours	File Formats	Composition	Colour Control	Rating	Issue
Art Department	Silica	£100	Yes	16.7 m	Many	No	Yes	N/A	-
<b>Art Department Pro</b>	<b>Silica</b>	<b>£200</b>	<b>Yes</b>	<b>16.7 m</b>	<b>Many</b>	<b>Yes</b>	<b>Yes</b>	*****	<b>10</b>
ImageFX	Silica	£269.95	Yes	16.7 m	Many	Yes	Yes	****	27
<b>ImageMaster</b>	<b>Amiga Centre Scotland</b>	<b>£175</b>	<b>Yes</b>	<b>16.7m</b>	<b>IFF</b>	<b>Yes</b>	<b>Yes</b>	*****	<b>18</b>

### PAGE LAYOUT PACKAGES

Product	Supplier	Price	Outline Fonts	Pantone	Postscript	24-bit Col	Colour Sep	Rating	Issue
CityDesk	Precision	£130	No	No	Yes	No	No	N/A	-
<b>PageSetter 2</b>	<b>Silica</b>	<b>£100</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	N/A	-
PageStream 2.2	Meridian	£69.95	Yes	No	Yes	Yes	Yes	***	2,3
<b>ProPage 4</b>	<b>Silica</b>	<b>£199.95</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	*****	<b>27</b>
Saxon Publisher	Surface UK	£250	Yes	No	Yes	Yes	Yes	***	17

### STRUCTURED DRAWING PROGRAMS

Product	Supplier	Price	Bezier Curves	Postscript	Outline Fonts	EPS compat	Rating	Issue
Art Expression	Silica	£150	Yes	Yes	Yes	Yes	****	24
<b>DesignWorks</b>	<b>Silica</b>	<b>£100</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	N/A	-
ProDraw 3.0	Silica	£132	Yes	Yes	Yes	Yes	****	20

### CAD PACKAGES

Product	Supplier	Price	DXF Compat	No. Of layers	Vector Fonts	PostScript	Rating	Issue
DynaCADD	Teleware	£650	Yes	256	Yes	Yes	****	3
<b>UltraDesign</b>	<b>Marcam</b>	<b>£200</b>	<b>Yes</b>	<b>128</b>	<b>Yes</b>	<b>Yes</b>	N/A	-
X-CAD 2000	Digital Multimedia	£129	Yes	255	Yes	With util included	N/A	-
<b>X-CAD 3000</b>	<b>Digital MultiMedia</b>	<b>£300</b>	<b>Yes</b>	<b>255</b>	<b>Yes</b>	<b>With util included</b>	N/A	-

### UTILITIES

Product	Supplier	Price	Type	Rating	Issue
Ami-Back	Micro-PACE	£69.99	Hard Disk Backup	****	29
<b>ASIM CDFS</b>	<b>Micro-Pace</b>	<b>£49.95</b>	<b>CD-ROM filing system</b>	****	<b>33</b>
CanDO 2.51	INOVAtronic	£149.95	Applications generator	****	33
<b>Director 2</b>	<b>Alternative Image</b>	<b>£100</b>	<b>Video Presentation scripting language</b>	***	<b>19</b>
Directory Opus 4	Silica	£64.95	Directory utility	*****	28
<b>DOS Lab</b>	<b>GTS</b>	<b>£19.99</b>	<b>AmigaDOS help disk</b>	***	<b>26</b>
Essence	Apex Software	£80	Algorithmic textures for Imagine 2	****	20
<b>Flow 3.0</b>	<b>Silica</b>	<b>£80</b>	<b>Ideas Processor</b>	***	<b>10</b>
GB Route Plus	Complex Computers	£80	Journey Planner	*****	10

# PRODUCT LOCATOR

<b>GB Route Plus Edit</b>	<b>Complex Computers</b>	<b>£30</b>	<b>Editor For GBRoute</b>	****	10
GigaMem	Gasteiner	£69.95	Virtual memory system	*****	33
<b>Hit Kit!</b>	<b>Gajits</b>	<b>£25</b>	<b>Sequences for Sequencer One</b>	***	16
Home Office 2	Gold Disk	£99	Integrated applications software	*****	20
<b>HotLinks</b>	<b>Silica</b>	<b>£70</b>	<b>Add on for PageStream 2.2</b>	**	16
Maple V	Chapman & Hall	CAN\$530	Algebra solving utility	****	29
<b>MapMaster</b>	<b>Alternative Image</b>	<b>£54</b>	<b>Image Mapping package</b>	****	14
Music Librarian	ARK	£39.95	Dedicated music database	***	33
<b>NCommand Pro</b>	<b>Oasis</b>	<b>£15</b>	<b>Intuition extension for AMOS</b>	***	33
PowerWaves 3.1	Database	£17.95	Create wave-based 3D objects	****	21
<b>Proper Grammar II</b>	<b>Gordon Harwood</b>	<b>£39.95</b>	<b>Grammar checker</b>	*	30
Real Things	Living Data	£29.95	Animated animal brushes for DPaint	****	20
<b>Resource</b>	<b>Hellos</b>	<b>£130</b>	<b>Macro disassembler</b>	*****	33
Studio	JAM	£49.95	Printing utility	*****	33
<b>Product</b>	<b>Supplier</b>	<b>Price</b>	<b>Type</b>	<b>Rating</b>	<b>Issue</b>
Reverser	Alternative Image	£10	Animation Utility	****	17
<b>SaxonScript</b>	<b>Surface UK</b>	<b>£100</b>	<b>Postscript interpreter</b>	***	15
Shades	Meridian Software	£60	Gradient fills for PageStream	**	16
<b>Smooth Talker</b>	<b>Zen Computers</b>	<b>£140</b>	<b>Video Prompting package</b>	****	16
SurfaceMaster	Alternative Image	£28	Add on for Imagine	****	14
<b>Touch Typist</b>	<b>Sector Software</b>	<b>£14</b>	<b>Teach yourself touch typing</b>	****	15
Turbo Print Pro	Meridian	£49.95	Enhanced printing	****	11, 12
<b>TypeSmith</b>	<b>Soft Logic</b>	<b>£135</b>	<b>Outline font editor</b>	*****	26
Word Power	Steve Rennocks	£9.95	Crossword solver	-	30

## WORD PROCESSORS

Product	Supplier	Price	Spell Checker	Thesaurus	Picture Import	Rating	Issue
Cygnus Ed 3	Silica	£79.95	No	No	No	*****	33
<b>Excellence 3</b>	<b>HB Marketing</b>	<b>£79.95</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	****	25
Final Copy 2	Gordon Harwood	£100	Yes	Yes	Yes	****	25
<b>Final Writer</b>	<b>Gordon Harwood</b>	<b>£129.95</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	*****	33
KindWords 3.0	Silica	£80	Yes	Yes	Yes	**	25
<b>Mini Office 2</b>	<b>Europress</b>	<b>£69</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	****	17
Pen Pal	Harwoods	£80	Yes	No	Yes	****	6,9,25
<b>Personal Write</b>	<b>MicroPace</b>	<b>£30</b>	<b>No</b>	<b>No</b>	<b>No</b>	*	25
ProWrite 3.2	Silica	£143	Yes	Yes	Yes	***	12
<b>Protext 5.5</b>	<b>Armor</b>	<b>£150</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	*****	6,9,25
Word Perfect	Sentinel	£230	Yes	Yes	No	N/A	-
<b>Wordworth 2 AGA</b>	<b>Digita</b>	<b>£129.95</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	****	33

## DATABASES

Product	Supplier	Price	Type	Programmable	dBASE Compatible?	Rating	Issue
InterBase	InterActivision	£29.95	Card Index	No	Yes	****	26
<b>PowerBase 3.34</b>	<b>Steve Rennocks</b>	<b>£14.95</b>	<b>Card Index</b>	<b>No</b>	<b>No</b>	****	30
ProData 1.2	Armor	£100	Card Index	No	Yes	****	9
<b>Mini Office 2</b>	<b>Europress</b>	<b>£69</b>	<b>Card Index</b>	<b>No</b>	<b>No</b>	***	17
SuperBase	Precision	£30	Relational	No	Yes	****	9
<b>SuperBase 2</b>	<b>Precision</b>	<b>£100</b>	<b>Relational</b>	<b>No</b>	<b>Yes</b>	****	9,12
SuperBase Pro 4	Precision	£400	Relational	Yes	Yes	*****	4,9

## SPREADSHEETS

Product	Supplier	Price	Lotus Compatibility	Graphs	Rating	Issue
Advantage	Silica	£100	Yes	Yes	****	1,9
<b>DGCalc</b>	<b>Digita</b>	<b>£40</b>	<b>No</b>	<b>No</b>	N/A	-
K-Spread 3	Kuma	£70	Yes	Yes	***	9
<b>K-Spread 4</b>	<b>Kuma</b>	<b>£100</b>	<b>Yes</b>	<b>Yes</b>	****	9
Maxiplan 4	Meridian	£49.95	Yes	Yes	***	18
<b>Mini Office 2</b>	<b>Europress</b>	<b>£69</b>	<b>No</b>	<b>Yes</b>	***	17
ProCalc	Silica	£150	Yes	Yes	N/A	-

## MULTIMEDIA

Product	Supplier	Price	Interactive	External Drivers	ARexx	Rating	Issue
AmigaVision	Commodore	£80	Yes	Yes	Yes	N/A	-
<b>CanDo 1.5</b>	<b>Checkmate Digital</b>	<b>£130</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	N/A	-
HyperBook	Silica	£100	Yes	No	Yes	****	6
<b>Viva!</b>	<b>MicroDeal</b>	<b>£200</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	N/A	-

## VIDEO TITLERS

Product	Supplier	Price	Overscan	Transitions	Amiga Fonts	Horiz Crawl	Rating	Issue
Alternative Scroller	Alternative Image	£50	Yes	No	No	Yes	N/A	-
<b>Broadcast Titler</b>	<b>Meridian</b>	<b>£327.27</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	****	2
Scala 1.1	Silica	£250	Yes	Yes	Yes	No	*****	2
<b>Scala 500</b>	<b>Silica</b>	<b>£100</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	N/A	-
Scala MM200	Scala UK	£395	Yes	Yes	Yes	Yes	*****	21
<b>Video Caption Designer</b>	<b>Maze</b>	<b>£200</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>	***	3
Video Ease	Interactive Technology	£40	Yes	Yes	Yes	Yes	**	11

## DESKTOP VIDEO UTILITIES

Product	Supplier	Price	Type	Rating	Issue
Adorage	MicroPace	£79.95	Video Effects System	****	24
<b>AntiA</b>	<b>Zen</b>	<b>£40</b>	<b>Font Enhancer</b>	****	8
Deluxe Video 3	Electronic Arts	£100	Presentation System	N/A	-
<b>Elan Performer 2</b>	<b>Silica</b>	<b>£180</b>	<b>Presentation System</b>	****	11
ShowMaker	Silica	£250	Presentation System	***	10

## MIDI SEQUENCERS

Product	Supplier	Price	No. of Tracks	Amiga Smpis	Song Arrange	Rating	Issue
Bars&Pipes Pro	Zone	£200	Unlimited	Yes	Yes	*****	3
<b>KCS 3.5</b>	<b>Zone</b>	<b>£280</b>	<b>48</b>	<b>Yes</b>	<b>Yes</b>	*****	8
Master Tracks	MCM	£200	64	No	Yes	***	-
<b>Music-X</b>	<b>MicroIllusions</b>	<b>£150</b>	<b>256</b>	<b>Yes</b>	<b>No</b>	****	-
Music-X Junior	MicroIllusions	£50	256	Yes	No	****	-
<b>OctaMED Professional</b>	<b>SeaSoft Computing</b>	<b>£30</b>	<b>16</b>	<b>Yes</b>	<b>Yes</b>	****	29
Pro-24	Evenlode	£300	24	No	Yes	***	4
<b>Sequencer One</b>	<b>Gajits</b>	<b>£90</b>	<b>20</b>	<b>Yes</b>	<b>Yes</b>	****	2
Sequencer One Plus	Gajits	£50	32	Yes	Yes	****	16

# PRODUCT LOCATOR SOFTWARE

Tiger Cub	Zone	£100	12	Yes	Yes	****	-
Trax	MCM	£70	64	No	Yes	*****	-

## MISC MIDI SOFTWARE

Product	Supplier	Price	Type	Rating	Issue
Audio Sculpture	SMG	£50	Sample Sequencer	**	12
CMPanion	Gajits	£100	Patch Editor	****	6
Caged Artist	Zone	£100	Patch Editor	***	6
Copyist Apprentice	Zone	£100	Score Notation	****	-
Copyist DTP	Zone	£230	Pro Score Notation	****	-
Dr T Boom Box	Zone	£45	Music for beginners	***	21
Mugician	Thalamus	£30	Sample Sequencer	***	-
Quartet	MicroDeal	£50	Sample Sequencer	***	-
SuperJAM!	Blue Ribbon Sound.	£100	Algorithmic Composition	****	15
TechnoSound Turbo 2	New Dimensions	£49.95	Sample editor	****	30
X-Or	Zone	£220	Librarian	****	6

## EDUCATIONAL SOFTWARE

Product	Supplier	Price	Type	Rating	Issue
Answer Back Quiz	Kosmos	£20	3 'R's	****	3
Better Maths	School Software	£23	Maths	***	4
Better Spelling	School Software	£23	Writing	****	3
Cave Maze	Coombe Valley	£12	Quiz	***	7
Count & Add	Lander Software	£26	Maths	****	10
Donald's Alphabet Case	Entertainments Int.	£25	Reading	***	2
Early Learning Maths	ESP Software	£20	Maths	***	6
First Letters	Rainbow	£8	Reading	***	7
French Mistress	Kosmos	£20	French	****	4
Fun School 3	Europress	£25	3 'R's	*****	2
Fun School 4	Europress	£25	3 'R's	*****	9
Game, Set & Match	GeniSoft	£21	Maths	**	2
Hooray For Henrietta	Sketlander	£25	Maths	***	2
Kids Type	GeniSoft	£25	Writing	****	2
Learn to Read With Prof	Prisma	£25	Reading	***	2
Let's Spell	Softstuff	£20	Writing	****	2
Magic Maths	School Software	£23	Maths	***	2
Maths Adventure	Kosmos	£26	Maths	***	12
Maths Blaster Plus	Ablac Computec	£40	Maths	***	3
Maths Dragons	Coombe Valley	£12	Maths	***	7
Maths Mania	School Software	£23	Maths	****	3
Mickey's Zoo	Entertainments Int.	£25	Maths	***	2
MicroFrench	LCL	£24	Language Tutor	****	17
Money Matters	Triple 'R' Educational	£20	Money	*****	-
Pepe's Garden	Prisma	£26	3 'R's	****	10
Pick A Puzzle	Deja Vu	£2.50	Jigsaw	***	2
Picture Book	Triple 'R' Education	£20	3 'R's	****	10
Play It Safe	Deja Vu	£3.50	General	****	2
Puzzle Book 1	Softstuff	£20	3 'R's	***	2
Reasoning With Trolls	Coombe Valley	£15	Quiz	****	8
Sesame Street	Merit Software	£16	Painting	***	2
Shapes & Colours	Rainbow	£8	Basic	****	7
Spell Book	Softstuff	£8	Writing	****	6
Spell!	Europress	£9	Writing	***	3
Spellbound	Lander Software	£26	Writing	****	10
SpellCopter	ESP Software	£20	Writing	****	6
The Three Bears	School Software	£23	Reading	***	2
Things To Do With Words	Softstuff	£20	Writing	***	2
Weather Watcher	GeniSoft	£25	Weather	***	4
What Is It?	GeniSoft	£20	Geography	****	4

## PROGRAMMING LANGUAGES

Product	Supplier	Price	Language	Compiler	Rating	Issue
AMOS	Europress	£50	BASIC	Separate	*****	3,9
AMOS 3D	Europress	£30	BASIC Extension	-	*****	5,7
AMOS Compiler	Europress	£30	Compiler	Yes	****	5,9
AMOS Professional	Europress	£69.95	BASIC	Separate	*****	20
AMOS Pro Compiler	Europress	£34.99	Compiler	-	****	30
Aegis Visionary	Precision	£59	Adventure	Yes	***	17
Blitz	Siren Software	£70	BASIC	Yes	***	3,9
Devpac 3	HiSoft	£70	Assembly	-	*****	10,12
Easy AMOS	Europress	£35	BASIC	No	*****	12
GFA BASIC 3.5	GFA Data Media	£50	BASIC	Separate	****	3,9
GFA Compiler	GFA Data Media	£30	Compiler	-	****	3,9
HiSoft BASIC	HiSoft	£50	BASIC	Yes	****	9
HiSpeed Pascal	HiSoft	£100	Pascal	Yes	****	19
Lattice C 5	HiSoft	£230	C	Yes	*****	3,9
M2 Amiga	Real Time Associates	£125	Modula-2	Yes	****	7,9

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Ablac Computec	0626 331464	Coombe Valley	0626 779695	GeniSoft	0753 686000	Meridian	081 543 3500	Scetlander	041 357 1659
Accolade	071 738 1391	Deja Vu	0942 495261	GFA Data Media	0734 794941	Merit Software		School Software	
Alternative Image	0533 440041	Digita	0395 270273	Harwoods	0773 836781		0101 214 385 2353		010 353 61 45399
Amiga Centre Scotland		Digital Multimedia	0702 206165	HiSoft	0525 718181	Microllusions	0480 496497	Seasoft	0903 850378
	031 557 4242	Electronic Arts	0753 549442	Interactive Technology		New Dimensions	0291 690 933	Sentinel	0932 231164
Arnor	0733 68909	Entertainments Int	0268 541212		0423 501321	Omega Projects	0942 682206	Silica	081 309 1111
Artworks	0469 588 138	ESP Software	0702 600557	Kosmos	0525 53942	Prisma Software	0244 326244	Siren Software	061 724 7572
Checkmate Digital	0707 664684	Europress	051 357 1275	Kuma	0734 844335	Radiance	0101 408 270 7420	SMG	0274 562999
Cloudhall	0604 231211	Evenlode SoundWorks		Lander Software	041 357 1659	Rainbow	0392 77369	Softstuff	0732 351234
Commodore	0628 770088		0993 898484	Marcam Ltd	071 258 3454	Real Time Associates		Surface UK	081 566 6677
Complex Computers		ExpressWorks	0252 726255	MCM	081 963 0663		081 656 7333	Teleware	0562 882 125
	0706 224531	Gajits Music	061 236 2515	MegageM	0101 865 349 1104	Rombo Productions		Triple 'R' Software	0742 780370
Computech	0702 206165	Software		Micro-PACE	0753 551 888		0506 466601	Zone	081 7666564

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- Where possible, always test any software and hardware in the shop before taking it home, to make sure that everything works properly.
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- Don't forget to keep your receipt.

## BUYING BY PHONE

- Be as clear as possible when stating what you want to buy and make sure you confirm all the technical details. Things to bear in mind are version numbers, memory requirements, other hardware or software required, and compatibility with your Amiga (be sure you know which version of Kickstart you have).
- Check the price you are asked to pay, and make sure that it's the same as the price advertised.
- Check that what you are ordering is actually in stock.

- Check when and how the article will be delivered, and that any extra charges are as stated on the advert.
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- Before you send any money, ring the supplier to confirm that the item you want is in stock and when the delivery is likely to be made. Enquire about returning unwanted goods and the supplier's refund policy. Find out about hidden extras like postage and packing charges, and whether the prices quoted include VAT.
- Beware of companies that do not include an address in their adverts.
- If ordering goods of more than £100 in total value, always try to use a credit card – if anything goes wrong, you will be legally entitled to claim against the credit card company, even if the retailer has gone bust. You may also get extra insurance – check with the credit card company.
- Always buy from the most recent issue of *Amiga Shopper*.
- When your order arrives, check everything carefully. If anything is missing, don't use the product at all – contact the supplier immediately. If something doesn't work, make the obvious checks such as the fuse, but don't try to fix the product.
- If a problem does arise, contact the supplier in the first instance and calmly and politely explain your problem. In most cases these things are merely a mix-up or a misunderstanding that the supplier will happily put right. If you think you have a genuine grievance that has not been resolved, you might consider contacting your local Trading Standards Officer (the number will be in the phone directory – check the local council listing).
- Always keep records of correspondence with any mail order company you deal with and also make a note of where and when you saw the product advertised. False or misleading advertising is an offence, and suppliers must stick to what they've said in adverts.

# AMIGA SHOPPER

Issue 35 - March 1994

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Member of the Audit Bureau of Circulations

ABC

Audited circulation  
January - June 1993: 45,290

Printed by Southernprint Ltd, Poole, Dorset  
 ISSN 0961-7302 Printed in the UK  
 Circulation Manager: Jon Bickley  
 News Trade Distribution -

UK: Future Publishing 0225 442244  
 Worldwide: MMC Ltd 0483 211678

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# IN NEXT MONTH'S ISSUE

**H**ow many of you, we wondered, own one of these fancy 3D rendering packages? And how many of you, we wondered further, are just dying to know how to use them effectively to achieve the sort of high quality results you're used to seeing in the pages of this and other magazines, on TV and at the movies?

We reckon that, what with one thing and another, not least our sister magazine *Amiga Format* having recently included a copy of *Imagine 2.0* on their cover disk, there's probably a lot of you out there fitting the particular bill outlined by our wonderment.

The quick-witted among you have probably already anticipated the final stage in our golden strand of logic - if there's all those people wanting to know how to use 3D rendering software to create stunningly modelled images, why don't we write a feature telling them how to do just that?

So we did. And we'll be printing it next month. In it you'll find a step-by-step guide to creating an impressive scene containing a spaceship hovering over an alien landscape. We'll take you

from the basics of modelling each individual element to compositing them together and rendering the result. As if all this wasn't enough, we'll be showing you how to do it all for each of the popular rendering packages - *Imagine*, *Real 3D* and *Caligari*.

We'll be carrying a review of the long-awaited

version 2 of *TypeSmith*, the font creation and manipulation package from Soft-Logik, one of the leaders in desktop publishing software for the Amiga.

Other products also coming under that famous *Amiga Shopper* scrutiny are the new real-time colour digitisers from Rombo and the multimedia presentation package *Scala MM300*. Find out if they're worth your



Here's the two 3D objects from this month's cover disk, ready for rendering in *Imagine 2*. If you want to know how to create similar objects yourself, you need the next issue.

pennies next month.

The programming-oriented among you will be champing at the bit to read our next Masterclass feature, in which Paul Overaa presents a program to output MIDI data from standard song files.

*Amiga Shopper* issue 36 - the modelling madness issue - will be going on sale Tuesday 1 March. See you then. **AS**

## WIN A YEAR'S FREE SUBSCRIPTION

Who wrote the book *Absolute Beginners*? Send your answers to "Compo with tenuous link to the cover feature", *Amiga Shopper*, 29 Monmouth Street, Bath BA1 2DL. The closing date is Tuesday 8 February. The first correct answer wins a year's free subscription. Last month's winner was Andrew Bathgate of Herne Hill, London.

## YOU'VE WON!

There now follows, as part of our on-going bid to inform, a list of the lucky winners of issue 33's *Write On* competition: RC Graham of Chipping Norton, Oxon, R Boxer of Fleet, Hants, IR Knowles, Colwick, Nottingham, Naim Hosein of Dublin, Ireland, Andy Kyle of High Wycombe, Stan Wilson of Portadown, County Armagh, N D'Costa of Stockport, AP Holmes of Chatham, Kent, R Gardner of Canley, Coventry and Jon Hind of Letonworth, Herts. Well done!

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• PS Oh, and if you do have any problems getting hold of your favourite *Amiga* mag, call Kate Elston on 0225 442244 and she'll help you out.

# AMIGA SHOPPER

## AT-A-GLANCE GUIDE

To help you find what you want quickly and easily, here is a cross-referenced list of everything covered in this month's *Amiga Shopper*. You'll find a detailed index to the problem-solving *Amiga Answers* section on page 37. The page numbers given are for the first page of the article in which the subject is mentioned.

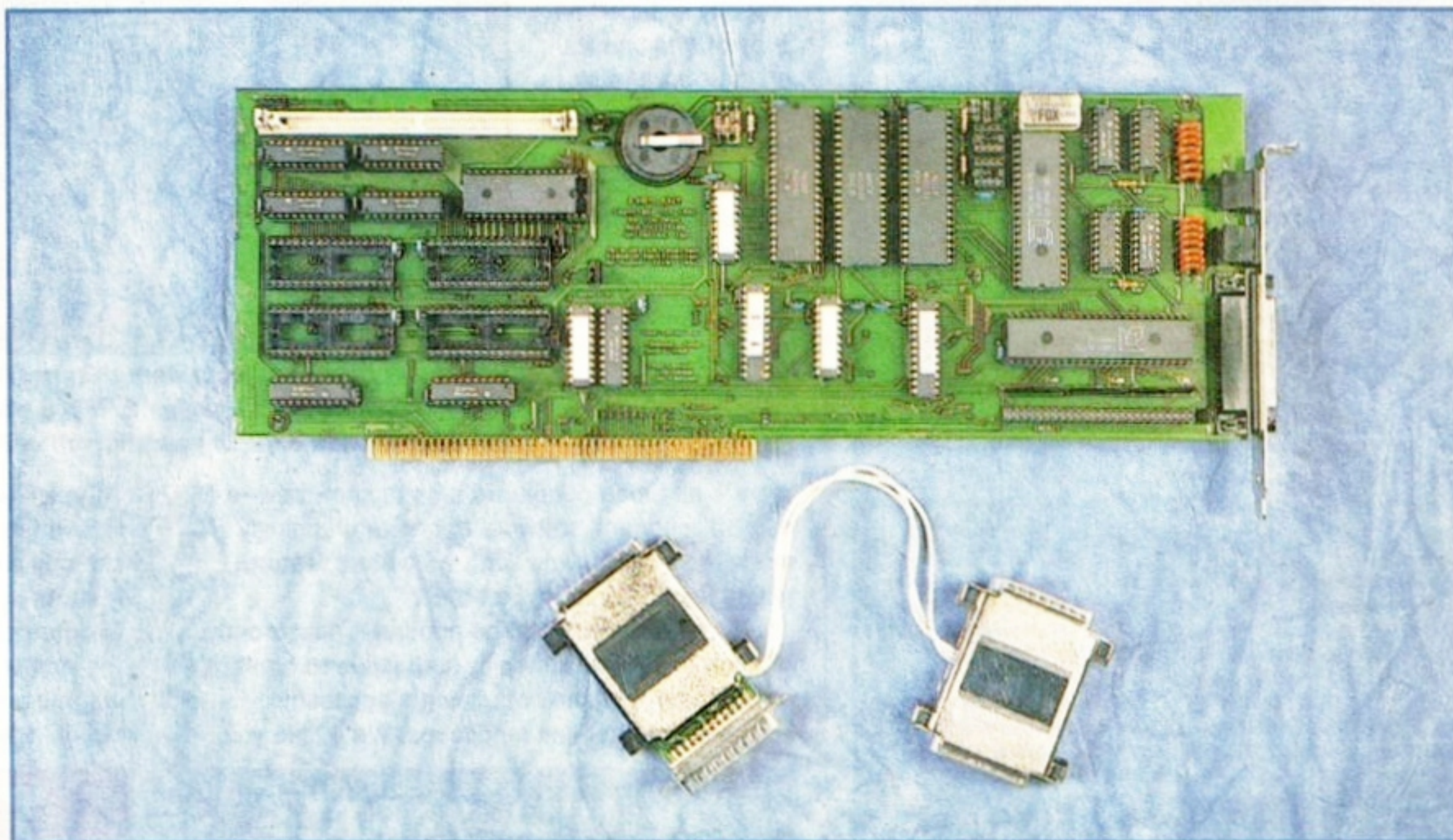
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WIN • WIN • WIN • WIN • WIN • WIN

# Emulation sensation

Turn your Amiga into a fully-fledged Mac with £400 worth of Emplant, kindly donated by Blittersoft



**T**hat's right – UK distributors Blittersoft have given us an Emplant Mac emulator, worth £399.95, to offer to you as a competition prize. As usual, all you have to do to win is answer the three embarrassingly easy question in the box below and get lucky when we come to draw a postcard or sealed envelope from the editor's postcard and sealed envelope retaining device.

Emplant is a circuit board that will fit into any Amiga with a spare Zorro slot. Your machine will need a minimum of 4Mb of RAM and a 68020 procesor or better. You will also need access to a 256K ROM fdrom a MacII, X, CX or SE30.

Once fitted, it will enable you to run lots of lovely Apple Mac applications at the same time as ordinary Amiga ones. It's compatible with just about every Mac application there is.

Emplant supports colour displays, giving you 16 colours with an ECS Amiga, 256 with an AGA Amiga, and as many as 16.7 million with supported graphics cards. It

also supports stereo sound.

It can make use of AmigaDOS hard disk partitions, or connect to other hard drives via its in-built SCSI adaptor, which provides a transfer rate for both the Amiga and Mac of over 1Mb per second.

The Deluxe model that we are giving away also comes with an AppleTalk serial interface, enabling it to be connected to other Macs in a network. You can plug in printers, modems, MIDI devices, SyQuest drives, scanners, graphics tablets, CD ROMs and more. The Mac emulation can also access AmigaDOS devices such as RAD:.

And what's more, you'll also be

able to emulate other machines with the addition of expansion modules – the next one scheduled being an IBM emulator for £99.95.

To enter, put the answers to the questions below, along with your name and address, on a postcard or the back of a sealed envelope and send it to:

**Emulation Sensation**  
**Amiga Shopper**  
29 Monmouth Street  
Bath BA1 2DL

The closing date for entries is Friday 4 March. Send only one entry per household and please state if you don't want your name included on a mailing list. **AS**

## THE QUESTIONS

1. Which editor of *Amiga Shopper* went on to edit *Mac Format*?

- (a) Bob Wade
- (b) Stuart Anderton
- (c) Andy Storer

- (a) Cyrano de Bergerac
- (b) Zorro
- (c) Conan the Barbarian

2. Which famous swordsman gave his name to the Amiga's slots?

- 3. Which spy wore a mac a lot?
- (a) Harry Palmer
- (b) James Bond
- (c) Napoleon Solo

WIN • WIN • WIN • WIN • WIN • WIN

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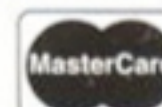
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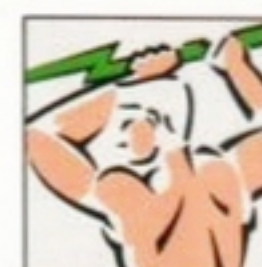
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